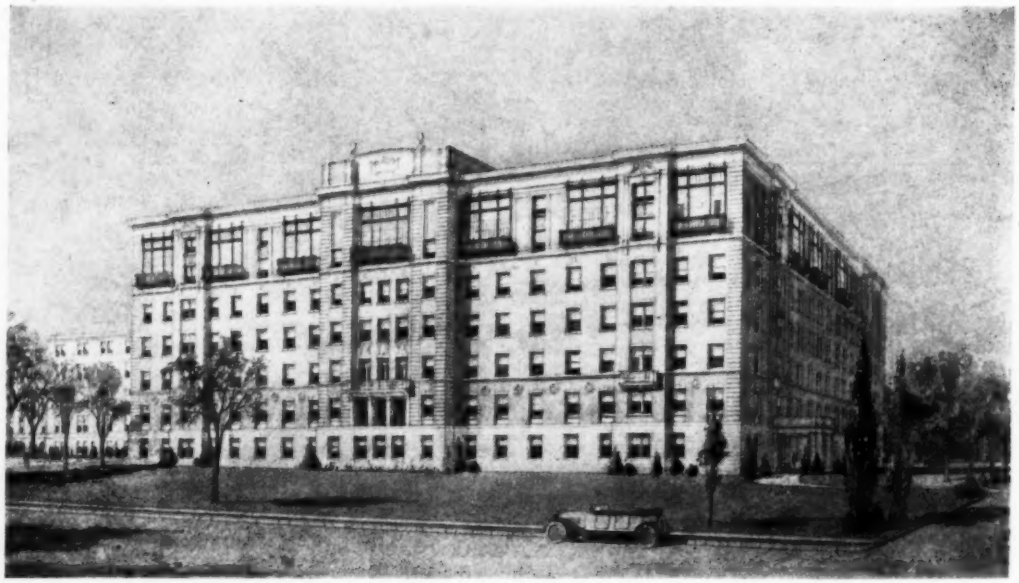
Hospital Progress

November 1922
The Official Magazine
of the
Catholic Hospital Association



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Official Magazine of the

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OF THE UNITED STATES AND CANADA

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Published Monthly for the Association by
THE BRUCE PUBLISHING COMPANY, Milwaukee, Wis.
PUBLICATION OFFICE: 129 Michigan Street EASTERN OFFICE: New York: 1 Madison Ave.

Entered April 23, 1920, as Second Class mail matter in the Post Office at Milwaukee, Wis., under the Act of March 3, 1879. Copyright, 1922, by the Catholic Hospital Association.

SUBSCRIPTION INFORMATION

The subscription price of the Magazine is $3.00 per year, payable in advance. Postage for foreign subscriptions, 50 cents; for Canadian and Mexican subscriptions, 35 cents. Single copies, 40 cents; more than six months old, 50 cents.

Notice of change of address should invariably include the complete old and new forms of address. Complaints concerning the non-receipt of subscribers' copies cannot be honored unless made within fifteen days after date of issue.

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Hospital Progress

Volume III NOVEMBER, 1922 Number 11

Seventh Annual Convention of the Catholic Hospital Association of the United States and Canada[1]

Papers and Discussions —IV

The President's Report

Rev. C. B. Moulinier, S. J., Milwaukee, Wisconsin

THE CATHOLIC HOSPITAL ASSOCIATION of the United States and Canada seems to your President to be going on with fairly intelligent vigor as an organization, and accomplishing a reasonable measure of success. As your President sees it, there is ample room for development which will come in due time if all the minds of the membership contribute to the upbuilding of the organization with broad, tolerant, harmonious and unselfish thought and action.

It is essential that an ever enlarging group with these mental and character qualifications appreciate:

(1) The value (even necessity),

(2) The proper functioning,

(3) The deepest needs, of such an organization.

The power and permission granted the President at the last convention and renewed at a special meeting of the Executive Board, to appoint a committee on the "Revision of the Constitution," and a committee on "Policy, Development and Affiliations," was not exercised by him because he became convinced as the year wore on that the organization is still in its developing period, and that too few are thinking with enough deliberateness and balance of mind, and with enough detachment from personal or local interests. Hence, these committees appointed at this convention, and all the membership with insight and inspiration growing out of this convention, it is hoped, will during the coming year give more time and attention to gain a deeper insight into what the CATHOLIC HOSPITAL ASSOCIATION of the United States and Canada should be, is coming to be, and will surely become, if all the thinking and leading active members will strive for harmony of view, of action, and of determination. It will be the unfailing effort of the President to do all in his power, as he understands and appreciates the functions and purposes of the CATHOLIC HOSPITAL ASSOCIATION, to cooperate with the intelligent, earnest and hard-working members.

II. As to the hospitals themselves, conducted by Sisters, doctors and nurses, both members and non-members of the CATHOLIC HOSPITAL ASSOCIATION, it may be of some little interest or value for the President to state that, *on the whole*, the Sisters' hospitals, singly and in groups, are actuated by the finest spirit and holiest motives in the conduct of their institutions.

The number of institutions with 100 or more bed capacity already on the list, and the number of those with 50 and up to 100 beds that should be on the list, reflect credit on the ability and energy of the Sisters, doctors and nurses. The still larger number that will appear on the next list, I feel sure, will be gratifying to all; but more satisfactory to me, and I think to all who understand hospital work, is the spirit of earnest endeavor on the part of all, to do the best possible under the handicaps of local conditions, circumstances and personal limitations.

III. I would not be acting sincerely, however, unless I included in this report a statement of some of the *needs* of Sisters' communities and *individual* hospitals, as also certain *groups* of hospitals conducted by different communities, and certain *deficiencies* largely growing out of these needs. The remedy for most of these *needs* and *deficiencies* will come, with time, out of a keener appreciation of the whole complex problem of hospital betterment and a deeper spirit and harmony of action for the attainment of these ends.

The *first* great need is *more vocations*.

The *second* great need is *more education* in the sciences and technique of hospital administration.

The *third* great need is greater *financial resources* in all hospitals, but especially in the smaller ones.

[1]The Convention met at the Catholic University of America, Washington, D. C., June 20, 21, 22 and 23, 1922. The present reports and addresses were delivered on the third day, June 23.

The committee for "Increase of Vocations to Sisterhoods" and of the "Number of Pupil Nurses" may help to supply the first great need.

An all-year-round school for the training of hospital executives and technicians of all kinds, if such can be brought about, will help to supply the second need.

Greater economic *intelligence* and *harmony* resulting in efficient operation of the hospital, along with the financial improvement throughout the country that seems coming, should make for a better financial condition in most of our Catholic hospitals; and a businessman's board may be one means to improve and develop resources.

This suggests a word on the *Charity* in our hospitals, as it appears to me. Charity as a Christian virtue means love of God and love of the neighbor for God, and the deeds of service prompted by this love. In the common acceptance of the word it means kindness or helpfulness to any human being. As applied to hospitals it means free service, part pay service, or reduced pay service.

I claim that all the service given to patients in Sisters' hospitals is charity service in the sense that it is given for the love of God and that, therefore, it is wrong to estimate the charity of a hospital on the basis of dollars and cents paid for services by the recipient of that service. The old Hotel Dieu idea of the Church, where the poor sick were treated as guests, can be and is, I venture to claim, carried out to a ninety per cent fulfillment in all our Catholic hospitals, especially in our standardized hospitals, because the best kind of service is being given with ever improving earnestness to every patient because that patient has a right to such service and because in the conscience of a hospital a right is a conscientious ethical duty reinforced by a religious motive based on the fact that the patient is a creature of God and a brother of Christ.

It is not fair today to estimate the charity of our hospitals on the basis of money and in this sense compare our present hospitals with the hospitals of an older day. In the older day the Hotel Dieu, the Catholic hospital, was intended almost exclusively for the poor, was established and maintained, first, by the subsidy that came from the wealthy rich Catholics of those days, from the heavily endowed churches or benefices thereto attached, or from the beneficence of lay or ecclesiastical, priest, bishop, archbishop, cardinal or church. Hence, the Sisters in the past centuries gave their service to the sick for the love of God, which is really charity. Today in the United States and Canada they are giving this same service for the love of God, but 95 per cent or more of the hospitals are constructed and maintained by the hard labor, economy and thrift of the various Communities who thus earn the revenue by giving service to those who can afford to pay and use as much of this money as is possible for a service of charity to the poor, which is both supernatural in its motive and unrequited in money.

Report of the Director of Diocesan Supervisors

Rev. John P. Boland, Buffalo, N. Y.

LAST year's report of the work of the Division of Diocesan Directors was necessarily a vague and general one. The office, then, was new, and its powers were undefined. It was recognized as obvious that the Hospital Director in each diocese is the appointed representative or delegate of his Ordinary, acting usually as a counseling and informing agent and only rarely, at the will of the bishop, as an agent with jurisdictional authority. It was brought out that both his power of suggestion and his power of official command, like the episcopal jurisdiction from which they are derived, are direct in all spiritual matters whether the community be *juris episcopalis* or *juris pontificii*, direct also, in the temporal management of institutions conducted by diocesan communities, and indirect in the administration matters of hospitals belonging to extradiocesan congregations or orders (Can. 1489). In a word, the episcopal delegation, verbal or written, must be looked upon as the source of the activities of the Hospital Director or Superintendent. Upon the delegate's tact and prudence must depend the successful performance of the duties which such activities connote. There is still existing in the minds of some Directors a vagueness concerning details, but on the whole much progress has been made during the past year in this Division of Hospital Directors, not only in interpreting their delegated status, but also in the actual carrying on of the work they have been commissioned to do. It has been an experimental period; from now on they may function along organized, standardized, routine lines.

The Hospital Director is the appointed link between the hierarchy and the association. Though his work includes rendering assistance in hospital management, standardization plans and methods, and the religious education of the pupils of the nurses' training school, its most important (being of everlasting character) phase is the organization of kind, prompt and regular spiritual relief for the distressed and ailing who are brought to our healing institutions. As a corollary of this duty of stanching the bleeding wounds in the souls of men, follows the mission of physical charity. Our hospitals must ever realize that as Christian institutions they have a very definite work of mercy and charity toward the poor among their patients. Permit me to quote from the report of Catholic charities of the

Archdiocese of New York, Division of Health: "Our Catholic hospitals have kept pace with modern scientific advances, but have never lost sight of the fact that they are Catholic as well as hospitals; that they owe a contribution to charity as well as to science; that they must bring to the poor and needy every legitimate advantage at the disposal of modern science for the restoration of health and the prevention of disease."

The total number of Diocesan Directors is now 33. Their work is done in every part of the United States and Canada. Their reports come from Nova Scotia and Saskatchewan, Boise, Idaho, and Boston, Massachusetts. An analysis of their report sheets demonstrates the variety of their activities. Regular hospital visitations, consultations with hospital superiors, lectures to nurses, and the organization of adequate spiritual aid for patients of foreign tongues are mentioned in every report. In the Archdiocese of Chicago a composite annual report, covering the above matters and adding information concerning physical equipment, filling and filing records, laboratory service, hospital social service and the observance of the ethical code, is gotten up, and, I presume, published. Diocesan conferences are held in the Archdiocese of New York and the dioceses of Brooklyn, Newark, and Buffalo. In New York and Brooklyn these conferences are held every quarter, in Buffalo, once a year since 1921. These conferences have the twofold object of inducing hospital superintendents to visit and consult with one another, and to confer with the Director. It is understood, of course, that only in the larger centers can quarterly conferences be held, though the question of distance should not prevent the holding of one diocesan conference a year. In the diocese of Newark, an association of Catholic hospitals has been formed with episcopal approval.

I have said that the duties of a Hospital Director are manifold, and that his knowledge of them is yet in the evolutionary stage. Each month, new methods and systems are found and tested, to be dropped, if unsatisfactory or not workable, to live, if useful. Possibly, the best experiment of the year comes from the Archdiocese of New York. It concerns the spiritual care of Catholics in hospitals that are not conducted under Catholic auspices. Groups of priests, upon the suggestion of the Director, are there volunteering to spend one day a week in non-sectarian hospitals, visiting Catholic patients, and bringing them the comfort and consolation of the Sacraments. Such chaplain service in non-Catholic hospitals, with the chaplain service in our own institutions, completes the chain of priestly service for all our Catholic sick. In Buffalo and other dioceses the Ordinary appoints foreign-tongued and American chaplains to care for the Catholic sick in non-Catholic hospitals.

If, to conclude, I were asked to summarize in one phrase the work of this division during the year that is past, I would say, the Director's office has made praiseworthy progress, under God, in rendering more and more stabilized Catholic aid to the men and women who come to our hospitals in search of care for their weary bodies and souls.

Report of the Committee on Hospital Standards

Rev. P. J. Mahan, S. J., Chairman, Chicago, Ill.

The membership of the committee appointed by the President is made up of priests, Sisters and doctors. The active members of the committee are 21 in number. A questionnaire was drawn up by the chairman of this committee covering the points which the chairman considered appropriate, with the added request, however, that the individual members of the committee add any other points they thought should be included. Responses have been received from 20 out of a membership of 21, so that we are able to offer almost a full report.

I shall read the questionnaire with the number of votes for and against each question:

A. (1) Should medical records be a requisite of the Minimum Standards?
Yes, 20. No 0.
(2) Should the record necessarily include the following:

(a) Personal history (past, family, onset and course)? Yes 20. No 0.
(b) Physical examination? Yes 20. No 0.
(c) Working or pre-operative diagnosis? Yes 20. No 0.
(d) Laboratory reports—chemical, pathological, bacteriological—and x-ray reports, according to the needs of the case? Yes 20. No 0.
(e) Report of operation, description of operation, statement of gross pathology found, microscopic diagnosis? Yes 20. No 0.
(f) Progress notes, indicating course of treatment, response to treatment? Yes 20. No 0.
(g) Final diagnosis? Yes 20. No 0.
(h) Condition on discharge? Yes 20. No 0.
(i) Autopsy record? Yes 20. No 0.

(3) Should reliable laboratory service—chemical, pathological, bacteriological and serological—be available? Yes 20. No 0.
(4) Should reliable x-ray service be available? Yes 20. No 0.

B. (1) Should it be requisite of the Minimum Standard that doctors bringing patients to the hospital be organized into a definite body, with rules and regulations governing the general care and treatment of patients? Yes 20. No 0.
(2) Should meetings of this organized body of doctors be required at least once a month? Yes 20. No 0.
(3) Should a discussion of the character and efficiency of the medical and surgical care of the patients be an essential part of the business of these meetings? Yes 19. No 1.

C. Is the moral or ethical phase of the medical and surgical treatment of patients sufficiently covered by the following points, submitted by our President, Rev. C. B. Moulinier, S. J., in answer to a previous questionnaire on Standards? Yes 20. No 0.

(1) All treatment, whether medical or surgical (drug or drugless), not based on a careful and conscientious diagnosis wherein all the helps of modern medical science, as far as is practicable, have been used to discover the cause of trouble, is forbidden as unfair (unethical) to the patient.

N. B.—A reasonable interpretation of this rule is:
(a) That emegency cases do not come under this rule.
(b) That whenever and wherever practicable and called for by the condition of the patient, consultation with other members of the staff be had, with or without compensation, as each staff shall decide in view of its own character, conditions or circumstances.
(2) All unnecessary, incompetent, mutilating and life-destroying surgical or medical treatment is absolutely forbidden.
N. B.—This means:
(a) That no surgeon will be allowed to remove healthy parts of organs from patients.
(b) That no operation directly destructive of life can be permitted.
(c) That if a patient's life is surely endangered by some pathological condition, any operation or treatment directly dealing with this pathological condition may be performed, although indirectly it may lead to the death of a foetus, provided after due consultation with competent authorities, no other means of saving the life of the patient is known to the medical science and skill of the day.
D. Should the Minimum Standard require a minimum number of graduate nurses in proportion to the bed capacity of the hospital? Yes 13. No 5. Undecided 2.
E. Is it desirable to draw up a higher or ideal standard that shall be directive in enabling our hospitals to rise to the highest point of excellence? Yes 9. No 6. No answer 5.
F. Should the minimum standard require a careful record of the service rendered and results secured by the Chaplain? Yes 10. No 6. No answer 4.

You will see from this that the verdict is unanimous with regard to the majority of the points contained, and that an affirmative vote favored the remaining points. However, the margin between the affirmative and negative votes on these points is so narrow that it would seem wise to have some discussion before a decision is made. Perhaps the division of opinion is due to a lack of clearness or precision in the questions.

Taking as a basis the returns from the questionnaire, the Minimum Standard of the CATHOLIC HOSPITAL ASSOCIATION might be formulated as follows:

The Catholic hospitals of the United States and Canada are institutions organized for the care of the sick and injured through the simple motive of the love of God as manifested in the bodily and spiritual care of His children. The superior excellence and sacredness of this motive requires that the service rendered to the sick and injured be fully adequate to meet bodily and spiritual needs and rights of all patients in accordance with the best and most efficient prevailing hospital standards of service. In order that such service be rendered to the sick and injured, this Association considers that the following regulations are essential:

I. That in the case of each patient a complete record be made and kept on file in the hospital. This record should contain the following points: (1) History—past history, family history, present complaint, onset and course; (2) a complete physical examination so recorded as to indicate the thoroughness of the effort made to diagnose the cause of the present complaint and to discover any other physical defects from which the patient may be suffering; (3) a working or pre-operative diagnosis, or at least an adequate statement of the reason for and purpose of the subsequent treatment; (4) reports of the laboratory work done, which should include all the tests indicated by the needs of the case; also X-ray reports, where indicated; (5) operative record, which should include a brief description of the operation, a statement of the gross pathology found and a microscopic diagnosis; (6) progress notes, indicating the course of treatment, response to treatment, significant facts of convalescence; final diagnosis, and condition on discharge; (7) a record of effort made to secure autopsies, and a brief statement of the findings in cases where autopsies are secured.

II. The above requirement of complete records requires that there be available, preferably within the hospital itself, dependable X-ray service and dependable laboratory service—chemical, pathological, bacteriological, and serological.

III. As an essential condition for securing the foregoing requirements and as a necessary precaution that they honestly serve the purpose for which they are intended—a careful and conscientious diagnosis—it is necessary that doctors bringing patients to the hospital be organized into a definite body, with rules and regulations governing the general care and treatment of patients, that this body meet at least once a month, and that the principal business of this body be a discussion of the character and efficiency of the medical and surgical care rendered to the patients.

IV. In order that proper respect for the law of God be observed, and due regard for the rights of the patient be shown, the following regulations must be accepted as a guide by each doctor practicing in the hospital:

All treatment, whether medical or surgical (drug or drugless) not based on a *careful and conscientious diagnosis,* wherein all the helps of modern medical science, as far as is practicable, have been used to discover the *cause* of *trouble,* is *forbidden as unfair* (unethical) to *the patient.*

N. B.—A reasonable interpretation of this rule is: (a) that emergency cases do not come under this rule; (b) that whenever and wherever practicable and called for by the condition of the patient, consultation with other members of the staff, or with other doctors not on the staff, with or without compensation, as each staff shall decide in view of its own character, conditions or circumstances.

(2) All unnecessary, incompetent, mutilating or life-destroying surgical or medical treatment is absolutely forbidden. This means:

(a) That no surgeon will be allowed to remove healthy parts of organs from patients;

(b) That no operation *directly destructive* of life can be permitted;

(c) That if a patient's life is surely endangered by some *pathological* condition of tissue or organ, any operation or treatment *directly* dealing with this *pathological condition* may be carried out, although *indirectly* it may lead to the death of a foetus; provided, after due consultation with competent authorities, no other means

of saving the life of the patient is known to the medical science and skill of the day.

V. Since the good of the patient depends very largely upon sufficient and capable nursing, it is requisite that a trained nursing force proportionate to the number of patients to be cared for be maintained.

VI. Since a hospital under Catholic auspices is maintained not only for the bodily but also for the spiritual good of patients, it is necessary that each hospital have a chaplain, either full time or part time, and that some record be entered of the spiritual ministration rendered patients, as far as the peculiar nature of such ministrations will permit.

Shall the Charity of the Catholic Medical World Include the Foreign Mission Field?

Paluel J. Flagg, M. D., New York, N. Y.

FRANCE by her Mission ETRANGER, England by her MILL HILL, and America by her MARYKNOLL, have flung far afield the ideal of self-sacrifice for the priesthood. The number of our clergy at home is all too small, and it would seem a folly of enthusiasm to further deplete their numbers by sending them from our midst to carry the light to those strange of tongue and custom. Experience has shown, however, that the sacrifice thus borne by the Church, results in an increase of vocations and a kindling of the flame of zeal at home.

Why may not we, whose work typifies all that is highest and finest in human endeavor, profit by this sublime example? We, too, live by sacrifice and service. By the very nature of our work we are linked with the priest in a manner so intimate that we needs must share in the pain and the glory which are his. Is it not reasonable, then, to look for an increase in the vocations for nursing Sisters, an improvement in the spirit of the visiting staff, an increase in nurses of the quality and the number desirable, and, finally, a relief of our financial burdens by applying the panacea of greater sacrifice, the sacrifice implied by the direct participation in medical mission work?

To those of our friends who wish reasons for the existence of medical missions, we would say: Because a billion human beings know nothing of medicine, surgery, hygiene and sanitation; because hundreds of thousands of your fellow creatures not only die, but live long lives of suffering from preventable and curable diseases; because here is an opportunity to practice medical charity which cannot pauperize the profession or foster in the recipients a spirit of evasion of just fees; because medical missions are Catholic in their burden, but their charity is and always has been extended to all.

The practical end of missionary work is, of course, the winning of the pagan soul to God. The Divine mandate permits of no evasion or procrastination. The Church has obeyed and is reaping the fruit of her labor. Shall we, the Catholic hospital, the physician and the nurse, bid her farewell forever, as she leaves our parochial strand, and by our silence and our coldness deny her thrice?

Our friends of the multitudinous sects, realizing the urgent need and the practical importance of the physician in missionary endeavors, establish their mission *about* the hospital. The souls of the cured, the sick and the dying are their reward. In a recent communication, the original of which is in the hands of the writer, the doctor of a non-Catholic hospital addressed one of our priests as follows: They would be glad, he said, to take the patient, as they were there for the sick, but, he added, "We do not wish any candle burning here." The priest asked, "Why not?" He, the doctor, continued, "We do not allow the pagans to burn incense in the hospital, and we could not permit you to burn candles." A direct inquiry to the effect, "Did this hospital allow a Catholic priest to administer according to the rites of his Church to patients desiring his services?" brought an invitation to have tea with the hospital staff. No further answer to this query was received.

We must realize, furthermore, that the presence of Catholic hospitals are essential to the successful and rapid progress of mission work. It must be borne in mind that the health of the priest and the religious must be continuously and most carefully safeguarded, if their work is to be continued. Through lack of proper medical care and supervision, our priests and Sisters languish with curable diseases, or die before their time, an eternal reproach to our apathy and denial.

Rapid transit and the radio have shattered distance. China is no longer outrageously far away or an altogether impractical place to live in. Even the practice of medicine is close to our own routine. A missioner, Father Meyers of Tungchan, one of the writer's former students at Maryknoll, writes as follows: "There are old sores, boils, abscesses, blood poison, itch, ringworm and sore eyes. The heads of many children, particularly in hot weather, are one mass of sores. Nearly every child has worms, and asthma seems quite frequent."

Regarding medical treatment as a means of conversion, Father Meyer continues: "Not only does it give us an opportunity of making ourselves known, but it brings one into contact with people and accomplishes what is probably the hardest step in converting them, namely, the gaining of their confidence and positive good will. I have been long racking my brains to think

of some means of reaching these people as effectually as the dispensary seems in the way of doing."

To imagine that one's death certificate is practically signed upon the securing of a passage to the "Far East" is quite absurd. Let us ever bear in mind that the diseases which have brought terror to the missioner form our specific objective, the reason for our presence.

We may see in the gangrenous appendix, the ruptured ectopic, the perforated typhoid ulcer, the massive empyema, the acute glaucoma, the impacted breach or transverse presentation, an opportunity for a surgical victory; in the specific stomatitis, tertian or estivo-autumnal infection, in smallpox and in leprosy, the triumph of our medical knowledge. The Church needs us for her preservation and the progress of her work. Duty demands this sacrifice and promises a temporal and an eternal reward.

The question of personnel in medical mission work is vital. There are three sources from which we may draw: The individual physician, the lay society under the auspices of a religious organization, and the society under the organization of Catholic hospitals. If we seek for physicians among those of our middle-aged, we find that the man who has made a success in medicine is unable and, usually, unwilling to leave home. The man who has made a failure of medicine and who would be attracted to mission work by what it had to offer financially, would not be worth his salt.

The second source from which personnel is available, that is, from the lay society, under the auspices of a religious organization, has been tried and found wanting. The difficulty of such a movement lies in the fact that the work proposed, namely, the establishment of dispensaries and hospitals, is a highly specialized one, requiring training and experience in its establishment and support. Most spiritual organizations do not specialize in this type of work, and, consequently, cannot be expected to handle it with success.

A third source, namely, the organized hospitals of this association, offer the greatest promise in supplying our need.

We are obliged to seek for physicians among our youngest men, those who are at the present time serving in our hospitals as interns. Such men are well informed, keen for their work, unhampered by habits, accustomed to hospital work and the nominal financial return which accompanies this. An offer of a post-graduate course as a physician to a mission for a period of not less than a year, passage and expenses paid, a bonus at the end of satisfactory service, is sure to attract a large number of applications. From these well-trained men we may select the best, offering our Mission work as a reward for their labors in the hospitals at home.

If Catholic medical mission work is to be anything more than the sporadic activity of a few charitably inclined physicians, it must become incorporated in the actual life of our Catholic hospitals at home. Were the Catholic hospitals of the United States and Canada willing to accept their obligation towards the Mission Field, one of the greatest present needs of the Church would be met. Yale, Rockefeller Institute and other centers of learning, have their branches in China. Why cannot each of us, a member of the most marvelous organization in the world, have our branch, our dispensary, where it will do most good? During the great war, we organized and sent forth our hospital units, at the call of an outraged humanity. Shall we do less in reply to the command of the Lord of this outraged humanity? Can we ignore the light which the Holy Ghost causes to stream upon our understanding, in defining so clearly our objective, and indicating what appears to be so practical a means of its attainment? Imagine, if you will, the effect of an announcement that *you* were opening an out-patient department in Yeungkong, South China. The crystallization of an ideal, the practical answer to your obligations towards the Church in her necessity, the enlarged view of your professional staff by the world-wide interest established, the retroactive interest in your own home needs, resulting in more Sisters, more nurses and more generous support from an awakened laity.

The organization of such a movement requires the support of the Press, medical mission lectures to men who are now medical students, retreats to medical students, cooperation by the clergy in seeking out the individual medical student in the parish and bringing the possibilities of medical mission work to his attention.

We have the practical reasons why we should make this effort. Experience has shown that as individuals we are powerless. Organization, alone, can succeed. Unity and simplicity of control looks to the formation of a committee on foreign missions in the Catholic Hospital Association. The establishment of an out-patient department in a foreign mission as an integral part of the activity of every large Catholic hospital; such a dispensary to be under the immediate control of the hospital at home, manned, if possible, by its own personnel, supported and directed by its own initiative, acting under the guidance of the Committee on Foreign Missions.

Hospitals as a Missionary Agency

Floyd Keeler, Washington, D. C.

NOT long ago your Secretary-Treasurer, Dr. McGrath, wrote me: "The purpose of this organization has been to aid in elevating the general standard of Catholic hospitals in the United States and Canada. Progress has been made, but the work is far from finished. Therefore, our conventions and magazine must be, at least for some time yet, devoted mainly to this purpose." And it is because I believe that what

I have to present to you is consonant with and serves that purpose, that I crave the indulgence of this convention for a few moments of its valuable time.

Elevating the standard of a Catholic hospital seems to me not merely a question of better operating, tables, the newest appliances, the most sanitary arrangements, and the highest standard of mechanical excellence. No, nor is the last word said when those who staff the hospital have attained the highest degree of professional skill, or are the most perfect in their work. All this, and far more is, from a professional point of view, unquestionably necessary. And it may be that for the secular hospital these and similar things are all that is needful that it attain its "standard." But the Catholic hospital is only beginning its service here.

I take it that a Catholic hospital's primary purpose is to set forth God. When our Lord Jesus Christ came to earth He attested His mission with miracles of healing; when He would commend His Church to the Gentile world, He commissioned His apostles to go forth, not only preaching the Word, but among other things healing the sick. As the Church developed and spread, healing the sick, caring for those who were either temporarily or permanently disabled came to be a recognized part of its routine, though normally then separated from the exercise of the apostolic office. In a rough age, when suffering was looked upon with a callous indifference by the majority, sanctuary for the physically afflicted, as well as for the spiritually weak, came to be understood as a part of the Church's ministry.

I need not go into the work of the early mediaeval hospitals, or of the orders of "hospitallers" which arose in those times. Far abler pens than mine have sketched these pictures in HOSPITAL PROGRESS and elsewhere, and it would be tedious for me, in my limited way, to recount them to you.

It seems that no matter which way we may turn we are constantly running afoul of that upheaval in the sixteenth century commonly called the "Reformation." It was an earthquake of a social, economic and religious order which interrupted the old lines of thought and the older and really more normal progress which preceded it, as nothing has done before or since. It leaves a chasm everywhere, and the bridging of that chasm at different points has been and continues to be the task of the succeeding centuries. There is no use railing at the "Reformation"—our work is repairing its damage in so far as we may. One of its worst features has been the misconceptions of God which its variegated theologies have set forth, and which have been evolved out of those theologies by further private interpretation on the part of individuals. Scarcely anyone outside the Catholic Church today has a right understanding of God in His relation to human life. Without such a concept the problem of human suffering is an insuperable one, and when the individual finds himself the subject of suffering in any form he is utterly at sea. Death brings its own terrors when it threatens the man himself, and when it visits his loved ones, rebellion and blank despair are apt to be his most common moods. Here it is that the Catholic hospital has its very best opportunity for service. Any hospital, or even a private home, can arrange a place where a man may stay while he recuperates from illness or in which he may die, but only a Catholic hospital can give the motive for this kind of service, or the philosophy which enables us to understand the dispensations of Providence with reference to our earthly sojourn. In other words, the Catholic hospital is a missionary center, and the recognition of this is just as important a matter in elevating its standard, as the teaching of the proper subjects in the curriculum of its training school, or securing fit persons for the personnel of its house-staff.

In the United States Catholic hospitals are, I believe, our greatest potential missionary agency. They are everywhere, they are becoming well and favorably known, and as your Association fulfills its primary purpose and enables them all to attain and maintain the highest possible standards of physical and mechanical perfection, they will be sought by an ever-increasing number of our American people. Becoming patients in a Catholic hospital is often the first and only contact many have ever had with Catholicism or with any sort of definite Christianity. Seeing the Church at work in the form of her consecrated servants is a revelation to the multitude. The fact that people can be at once religious and natural, pious but cheerful, sincerely devoted to their faith, even ready to die for it, yet not vociferous in their efforts to force it upon others, is something new to them, and it produces not only a pleasant sensation, but a favorable impression of the religion that is thus silently and unobtrusively presented. A desire to know more of it is thereby kindled and the number of hospital conversions tells the next chapter in the story, though they by no means finish it, for to everyone actually brought into the Church under such circumstances, dozens have their prejudices dispelled, their antagonisms softened, and their viewpoint altered in our favor. All this is pre-eminently worth while.

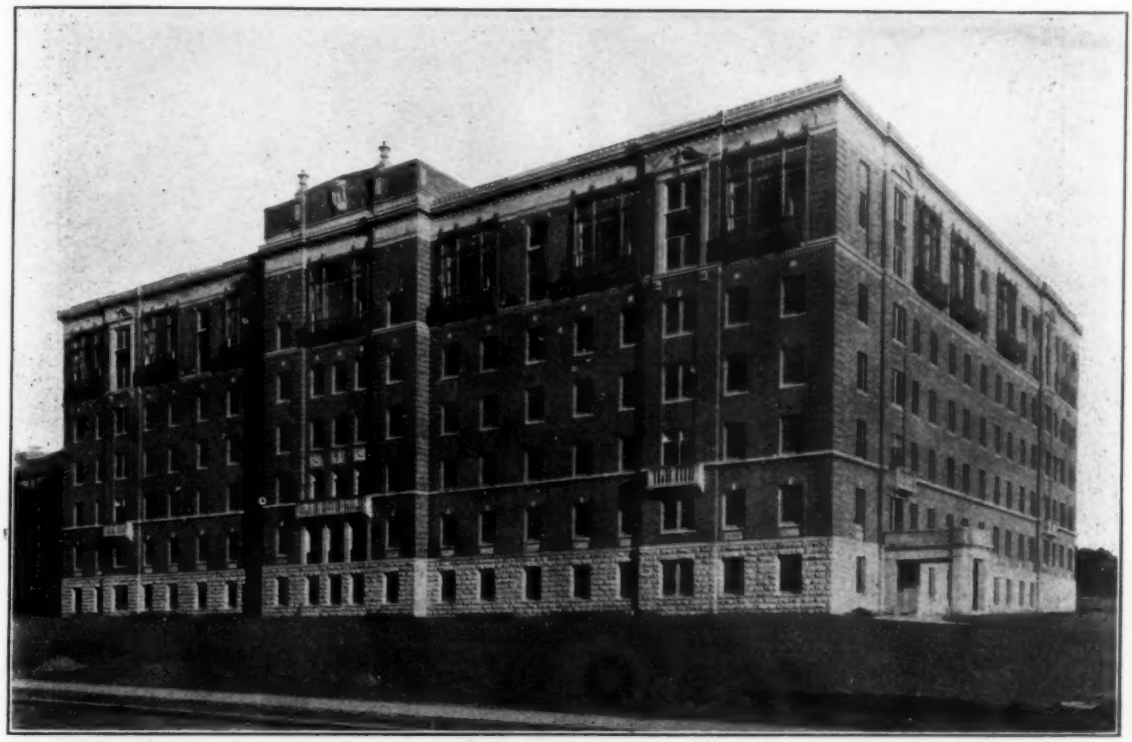
The Catholic Hospital Association exists for the reason that no matter how efficient any individual hospital, or any single community of nursing Sisters, or any staff of physicians, there is always something to be learned from contact with others, and there is always a greater efficiency to be had in organization. As it is with the hospital's equipment and service in its purely professional aspect, so it is with its missionary opportunity. This can only reach its maximum efficiency when it is everywhere understood, when it is everywhere accepted as a vital part of the hospital's plan and when it is in some way organized. To promote such a recog-

nition of its place and of such an organization is my purpose in being here. I am presenting the plan to you, heads of the institutions, members of the staff, because through you it will reach those whose lives I wish to shape in bringing home to them a realization of their missionary vocation. These are the novices in your communities, the pupil-nurses in your training schools, and the Catholic medical students wherever they may be.

The Catholic Students' Mission Crusade is a federation of societies of Catholic students. It exists for the purpose of interesting them in the missions and of promoting the spirit of missionary enthusiasm among them. Founded less than four years ago by the representatives of 15 Catholic colleges and seminaries, it today has more than 1,000 institutions enrolled in its ranks, and numbers not far short of a quarter of a million members—American Catholic young folks. It has only recently begun to make an appeal for the affiliation of those who are students connected with our hospitals, but it seeks the affiliation of these classes because (1) it believes theirs to be in itself a missionary life; (2) because we wish to show them how to "let their lights shine before men," and (3) because in so doing they will be helping to elevate the standard of our Catholic hospitals, rounding out their course of usefulness, by a more constant keeping before them of the spiritual side of their calling. It is not necessary to start a new society, a sodality or other organization already in existence will serve if it will undertake some thought for the missions as one of its objects. Our purpose is simply to keep before the students who are connected in any sense with the hospitals the fact of their Catholic obligation towards those who are without the Fold, and to band them together for the better and easier fulfillment of their part in it. Monetary assistance of the missions is the least of our considerations. What we want principally is prayer and loving service, and an aroused sense of the nobility and missionary end of their vocation.

It is only when this "standard"—the standard of the Cross—is raised not only on the pinnacles of our hospitals, but in the hearts of everyone who serves in them, that we shall have reached the maximum of service which we are called upon to render. Missionary service is the test of Catholic Christianity. "Faith, if it have not works, is dead." Yours is pre-eminently the calling wherein you may show by your works, the wonders of the Faith, and through those works bring Faith and Salvation to a sin-sick and spiritually hungry world.

NURSES, MERCY HOSPITAL, OSHKOSH, WIS.



GENERAL VIEW.

The New Surgical Pavilion

St. Mary's Hospital, Rochester Minnesota

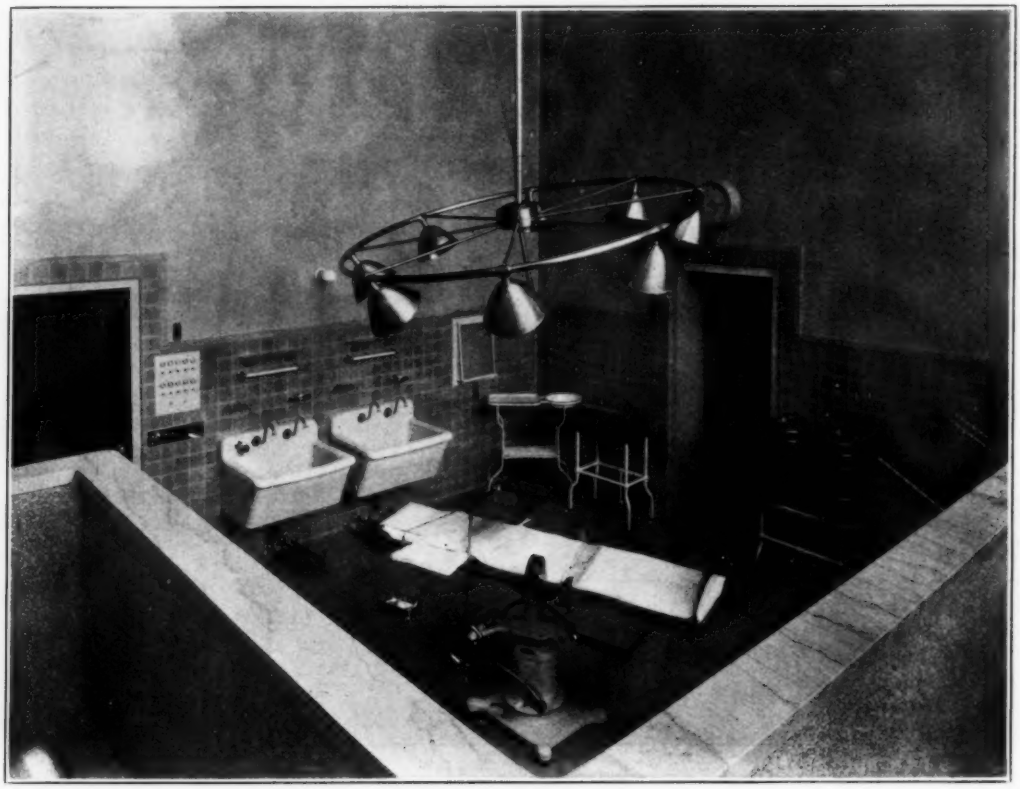
By a Past Member of the Staff

MAY 12, 1922, witnessed the formal opening of the new surgical pavilion of St. Mary's Hospital, Rochester, Minnesota. This provides for 300 patients, thus making the total bed capacity of St. Mary's approximately 600. The cost of the pavilion is estimated at $2,225,000. To quote a visiting surgeon from the East: "It is the last word for the care of surgical patients."

Early in September the writer enjoyed the privilege of being shown through this new addition, from the basement to the roof; and, further, had the opportunity of revisiting the older part of St. Mary's and to learn, at first hand, the Sisters' dreams and plans for the future. But there was so much to be seen, so many details to be grasped, that after a visit necessarily rather brief one must content himself with retaining only the main impressions of a remarkable achievement.

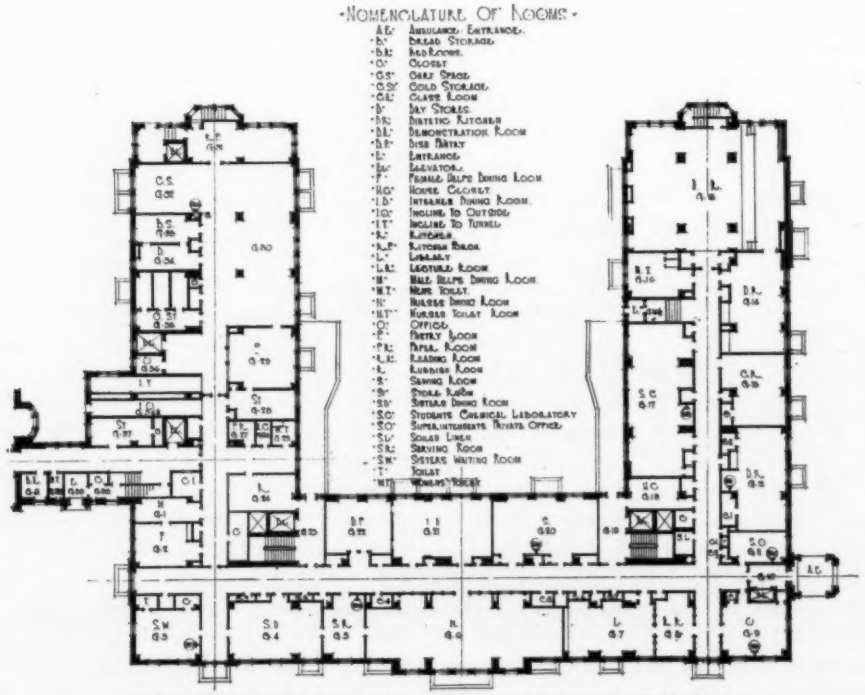
And the first of these impressions is the fact that this master-piece of construction was, in its every detail, planned by the Sisters of St. Mary's Hospital themselves. One tends to marvel at this, but, on second thought, who should be more capable, or in a better position to know the needs? These plans were but the realization of dreams, and the result of keen observation and concentrated thought during 33 years of invaluable experience. Further, and what is the very soul of it all, they were still another contribution of the purpose of lives consecrated to the service of God; a purpose which, throughout centuries, has blessed the world with so many benefactions, a purpose that, because of the sacredness of its mission, knows no failure.

The second impression was the attention given to details as regards efficiency in the scientific care, physical comfort, and mental well-being of the patient. This was noted, first, in the arrangement and equipment of the private rooms and wards, where the bathing and other facilities are such as to make a unit of each, thus requiring the minimum expenditure of time and energy, and insuring the constant attendance of the nurse. The number, location and interrelations of the medicine and blanket-warming closets, the diet kitchens, and other routine factors of service, were planned on the principle of efficiency. The sun parlors and smoking room for the patients are ample, attractive, and markedly lessen the "hospital" atmosphere, thus providing also for the beneficial effect of the mental attitude on the physical condition. While passing through one of these parlors the writer remarked to a male patient: "It appears that it should be a pleasure to be sick in a place like this." The patient, his face lighting up into a broad smile, replied: "You said something!"

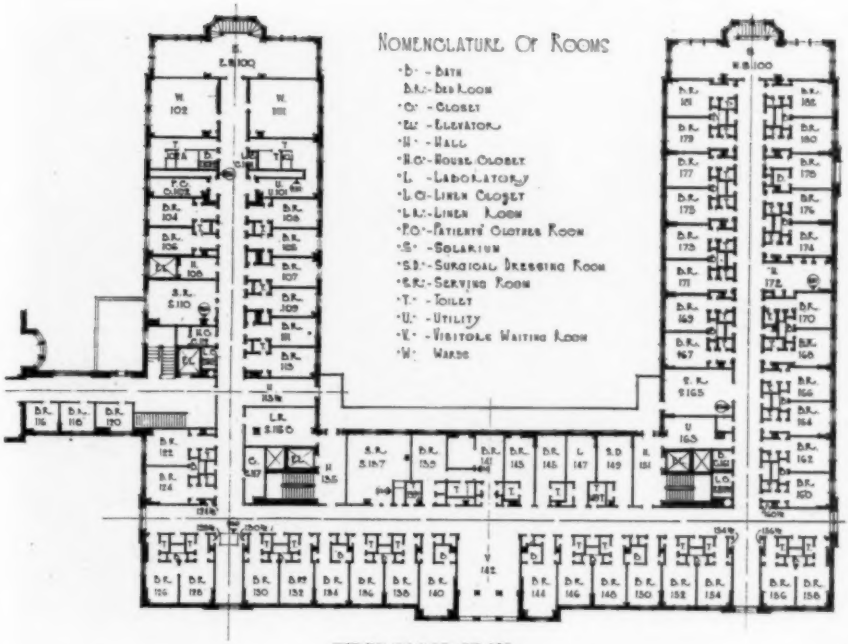


A MINOR OPERATING ROOM.

Noted secondly were the provisions relating to the operating service, which is on the fifth floor. There are eleven operating rooms, one of them a big amphitheater for special demonstrations, which is so constructed that visitors occupying the highest seats look almost directly down upon the field of operation. One of these rooms is set apart for all operations on the kidneys. In a word, the operating rooms may be described as beautiful, and excellently planned as concerns efficiency in the work and the comfort of the workers. The dressing rooms



BASEMENT FLOOR PLAN. Mr. C. H. Johnston, Architect, St. Paul, Minn.



FIRST FLOOR PLAN.

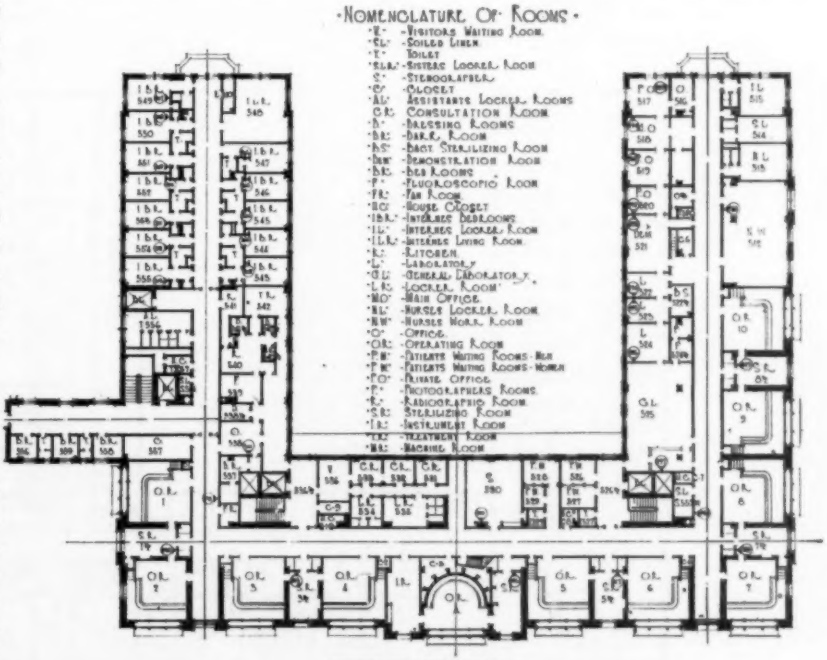
for the operating personnel are complete in number, equipped with shower baths and lockers, and otherwise so furnished as to favor a good mental and physical condition. Suitably located on the same floor as the operating unit is a room where the surgeons may meet relatives or friends of the patients for the purpose of supplying desired information.

Among the operating personnel there appeared to be much commendable pride and happiness over their new surgical home. In a conversation with one of the head surgeons, the writer asked how he liked it. He replied that, as was true of the other surgeons, when the time came to depart he could not bear to leave the old operating rooms, where he had worked so long, and to which he had become so attached; but that now he would not exchange for anything; the environments seemed to be more heartening, the work goes more smoothly, and at the end of the morning's operating he appeared to be far less fatigued.

The third impression was the excellent pathological laboratories —spacious, well equipped and manned. These are on the same floor as the operating rooms, and so situated as to be in close relationship with the operative work. A bacteriological department is to be incorporated. Ample space has been reserved for a museum.

Also on the fifth floor is an X-ray department which, when completed, shall be a unit of twelve rooms. Of interest to the writer was the Sisters' policy in solving the problem of laboratories. In the first place, a certain and sufficient floor space was allotted to each department, and then the director was given the privilege of constructing and equipping according to his own ideas. This appears to be both logical and prudent, conducing, as it should, to the best interests of the work and also guarding against dissatisfaction.

The fourth impression was the careful provision for what may be termed the educational. Practically from the beginning of its career the Mayo Clinic has stressed the educational, that is, the affording to visiting doctors of opportunities to advance their knowledge by observing the extensive work. Necessarily most of this has taken place at St. Mary's Hospital, and from the wide experience thus gained the Sisters were enabled to plan the educational phase of the new pavilion in a way that seems nearly perfect. The visiting doctor registers at a desk on the fifth floor, receives coat, face-mask and list



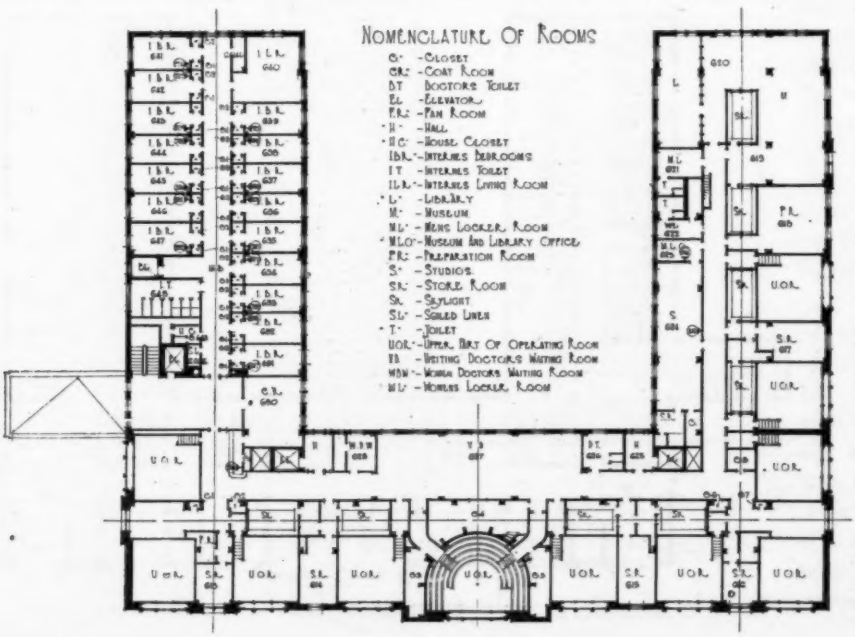
FIFTH FLOOR PLAN.

GENERAL VIEW OF INSTITUTION.

of operations for the day, and then goes to the sixth floor. Here, conveniently located in relation to the operating rooms, is the visiting doctors' waiting room. In this room is a bulletin board, on which are indicated, by an electric light system, the number of the operating room and the number of the operation as given on the list. Above the door leading to the doctors' observation stand is the number of the operating room. Descending a few steps, the visitor finds himself in a position that affords a full view of the work.

Another point of interest is the fact that an orthopedic department has been added to the service at St. Mary's. And in this regard is to be mentioned the work of heliotherapy, which is being carried out on the roof of the pavilion. This treatment is used particularly in connection with the orthopedic cases, and is under the direction of Miss Koenig, formerly assistant to Dr. Rollier, Switzerland, a pioneer in the subject. Through the courtesy of Sister Joseph and Miss Koenig, the latter has kindly agreed to describe the department in a future issue of HOSPITAL PROGRESS.

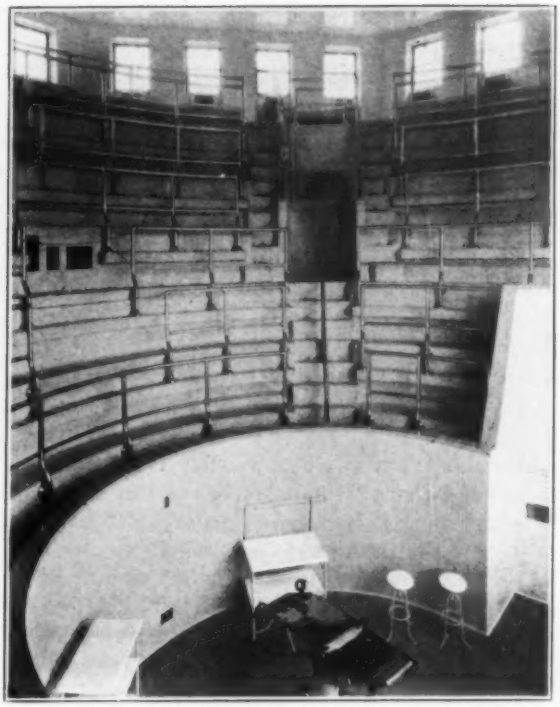
An outstanding feature of the new surgical pavilion is the provisions for the nurses' training school. This is located on the ground floor and should not be missed by any visitor. Through the courtesy of Sister Joseph and Sister Domitilla, the latter is to prepare a special illustrated article on the training school for HOSPITAL PROGRESS.


NOMENCLATURE OF ROOMS
C. - CLOSET
CR. - COAT ROOM
DT. - DOCTORS TOILET
EL. - ELEVATOR
PR. - PAN ROOM
H. - HALL
HC. - HOUSE CLOSET
I.B.R. - INTERNES BEDROOMS
I.T. - INTERNES TOILET
I.L.R. - INTERNES LIVING ROOM
L. - LIBRARY
M. - MUSEUM
M.L. - MENS LOCKER ROOM
M.L.O. - MUSEUM AND LIBRARY OFFICE
P.R. - PREPARATION ROOM
S. - STUDIOS
S.R. - STORE ROOM
SK. - SKYLIGHT
S.L. - SOILED LINEN
T. - TOILET
U.O.R. - UPPER PART OF OPERATING ROOM
W.R. - WAITING DOCTORS WAITING ROOM
W.D.W. - WOMEN DOCTORS WAITING ROOM
W.L. - WOMENS LOCKER ROOM

SIXTH FLOOR PLAN.

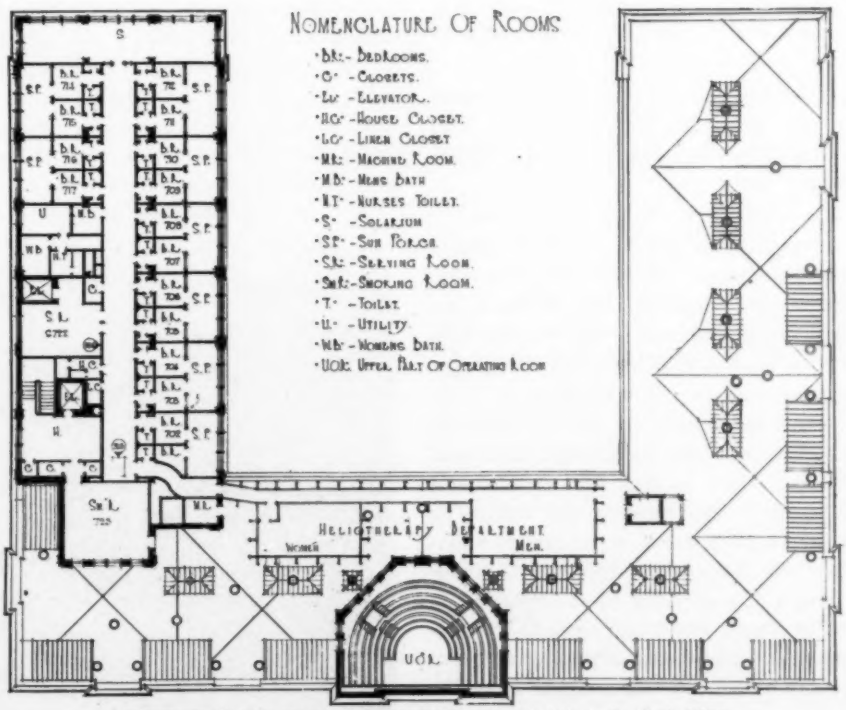
The final impression to be given in this rather cursory review is one of special interest. It concerns a new and fundamental policy adopted at St. Mary's as a result of the construction of the surgical pavilion. Going over to the older part of the hospital the writer was informed that this was to be devoted to non-surgical work. The former operating rooms are being converted into laboratories for medicine, where not only the necessary clinical work but also research is to be

OPERATING AMPHITHEATER—TOWARD WINDOW.



OPERATING AMPHITHEATER.

done. A separate building for animal experimentation has been included in this laboratory unit. The department of internal medicine has been placed in the hands of carefully selected authorities on the various subjects, and the Sisters confidently look to these doctors to one day make St. Mary's Hospital recognized for internal medicine as the Mayos have made it famous for surgery. There is provided a special department, with its own diet kitchen, for diabetic patients. An obstetrical section is in operation, and in the brief period of its existence already has had an unexpectedly large number of patients. Included in the plans is a section for



SEVENTH FLOOR PLAN. Mr. C. H. Johnston, Architect, St. Paul, Minn.

psychiatry and neurology, a phase of medicine in which, scientifically conducted, there appears to be a very fertile field for hospitals under the direction of Sisters.

So it is seen that St. Mary's Hospital is no longer limited to surgery, although in its new pavilion it has provided for a standard of surgical service that will suffice long into the future, one that will prove difficult for the world to excel. St. Mary's is now established as a general hospital, a great general medical unit for clinical service and scientific advancement, that will continue onward, ever increasing, ever progressing, a boon to suffering humanity, a most noble offering for the greater honor and glory of God. And at the present time what would be more apropos than a review of the main points in the history of this remarkable accomplishment. Such should be a source of encouragement, a telling example of the achievements that are possible where the purpose is guided by the soul.

History of the Hospital.[1]

In the fall of 1877 Mother Mary Alfred and 24 other Sisters of St. Francis came to Rochester and opened a convent for the promotion of educational and charitable work.

Their enterprise developed rapidly and the membership of their community so increased that, within a few years, more than twenty schools were being conducted by them and prospects were keen for their entrance into hospital work, traditionally cherished by Catholic Sisterhoods.

The proposal to erect a hospital in Rochester was brought before a corporation meeting of the Sisters and was voted on favorably. October 17 of the same year a deed was executed for the purchase of nine acres of land from John D. Ostrum and wife as a hospital site. The property, untenanted at the time, was just west of the city limits and was known as the Ostrum place.

The contract for the building was awarded August 1, 1888, and on September 30, 1889, St. Mary's Hospital opened and registered its first patient, an operative case of cancer of the eye.

Dr. C. H. Mayo and Dr. W. J. Mayo performed the operation that morning, their father, Dr. W. W. Mayo, administering the anesthetic. In the course of a week seven more patients were admitted. Six Sisters of St. Francis comprised the administrative and nursing staff. Their work was arduous and their hardships were many.

The hospital, a three-story brick building, 40 by 60 feet, contained three wards and one private room for patients; its total capacity was forty beds. It lacked modern conveniences, which at that time were almost unknown in Rochester. The building was lighted by kerosene lamps. On night duty the nurse carried a lantern to light her way through the hospital. Another lantern hung from a tree in front of the building to guide physicians or others who might come to the hospital during the night. There were city water and sewerage, but the nearest main was three blocks from the hospital. The water used in the building had to be pumped from a basement reservoir, which was replenished by a surface pipe leading from the city water tank. A cess pool and, later, a surface sewer met the sewage problem inadequately until the hospital was financially able to have its own main.

The first elevator in the building was put in by Fred Livermore, a local machinist and metal worker, assisted by Dr. C. H. Mayo. It was of the plunger type. The mechanic and the doctor excavated the forty-foot hole needed for the plunger and constructed a serviceable elevator, though it had an important deficiency. The hospital could not afford a regular operator for it. Consequently, if it were on an upper floor and was needed on another, some one had to go up and bring it down; and, vice versa, if it were on lower floor and was needed higher up. Occasionally some one had to go from the basement to the third floor "to bring down the elevator."

There was no telephone system and, when a physician had to be summoned to the hospital, some one walked the half mile to Main street to call him. The doctors traveled by horse and buggy, and it is not surprising that Dr. Charles Mayo was the first Rochester citizen to purchase an automobile. He also connected the doctors' offices with the hospital by telephone in 1891, two years before the city had a telephone system.

The first operating table used in the hospital was built by him and did service until 1891, when it was superseded by a glazed enamel operating outfit imported from Paris.

Discussing the prospects of the hospital with Mother Alfred a few months before it opened, Dr. Charles Mayo expressed an optimistic opinion that the hospital would have patients, not only from Rochester, but from "all these towns around here"—Plainview, Eyota, Elgin, and so on. Mother Alfred with much satisfaction quoted the young doctor's remark. Time soon proved that their expectations had not been too sanguine, for within three years patients were coming from Iowa, Illinois, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, New York, Ohio, South

VISITING DOCTORS' WAITING ROOM.

[1]The remainder of this article mainly was abstracted from the St. Paul Sunday Pioneer Press, May 7, 1922.

Dakota, and Wisconsin. Within a score of years they were coming from Europe, South America, Asia, Australia, and Africa.

Statistics of St. Mary's.

The success of surgery at St. Mary's was phenomenal from the start. In the four and one-third years ending January 1, 1893, there had been 655 surgical operations, ninety-eight and three-tenths per cent of them successful. St. Mary's opened as a general hospital, but the influx of surgical cases and the lack of room brought about a change to an exclusively surgical hospital until such time as sufficient room might be provided for general hospital work.

The rapid increase in the number of patients is shown by these figures taken from the annual reports:

Year	Number of Patients
1889 (¼ year)	62
1890	301
1891	315
1892	360
1893	405
1894	509
(First addition to hospital opened.)	
1895	640
1896	837
1897	874
1898	938
1899	938
(Second addition to hospital opened.)	
1900	1220
1901	1451
1902	1563
1903	1797
(Third addition to hospital opened.)	
1904	2104
1905	2747
1906	3299
1907	3748
1908	4243
1909	4809
(Fourth addition opened.)	
1910	5457
1911	5592
1912	5835
(Fifth addition opened.)	
1913	6825
1914	7520
1915	7568
1916	8053
1917	8114
1918	8114
1919	8304
1920	7425
1921	6435

MINOR OPERATING ROOM, SHOWING SEATING AND WINDOW.

A TYPICAL SOLARIUM.

In its thirty-two and one-half years of service St. Mary's has cared for 112,817 patients. Its facilities have been in the meantime multiplied and perfected.

Until 1893 the Doctors Mayo themselves attended to all the work at the hospital and clinic. They operated at St. Mary's from 8 A. M. until 1 or 2 P. M., then attended to the work at the clinic, and in the evening visited the patients at St. Mary's. When a physician was needed at the hospital during the night, they answered the call.

In 1893 the staff was increased by one man, Dr. A. W. Stinchfield, of Eyota, Minnesota, who devoted his entire time to diagnosis and medical work. The next year Dr. Christopher Graham was added. He was attending physician at St. Mary's. For three years these five physicians constituted the staff. Expansion in the succeeding years is indicated by the following figures:

Year	Number on Staff
1889	3
1890	3
1891	3
1892	3
1893	4
1894	5
1895	5
1896	5
1897	5
1898	8
1899	9
1900	12
1901	12
1902	12
1903	14
1904	15
1905	16
1906	20
1907	26
1908	29
1909	43
1910	47
1911	59
1912	69
1913	84
1914	104
1915	123
1916	142
1917	195
1918	207
1919	281
1920	296
1921	301

A TRIBUTE TO THE SISTERS BY DR. WILLIAM J. MAYO.

The following tribute to the Sisters in charge of St. Mary's Hospital was paid by Dr. William J. Mayo:

"Looking back to the early history of St. Mary's Hospital, I remember with heartfelt gratitude the Sisters who in that day devoted their lives to the task of building up the institution, not for themselves, but for what it could be made to accomplish for the sick of Rochester, of Olmsted county and vicinity.

"It could not be foreseen that their efforts would be crowned with the great success they have won, that through steady advancement of the character of their work the hospital in thirty-three years would increase its equipment and buildings to care for a continually growing clientele among whom are numbered patients from all the civilized countries of the world.

"From the beginning the Sisters of St. Francis have recognized no creed, color, social or financial distinctions. The poor have been as well cared for as the rich; they might well call themselves God's poor, so far as the Sisters have been concerned.

"Sister Constantine, Sister Sienna, and Sister Fidelis began their work in St. Mary's Hospital on the day that it opened. Some weeks later Sister Mary Joseph came, and within the first year Sister Fabian and Sister Sylvester were added to the nursing staff. They were all women of notable character. One of them has passed away, Sister Sienna, a noble, faithful woman, whose helpful hands and ever-ready sympathy soothed the pain and encouraged the hearts of those under her care. She died August 28, 1921, of a disease from which she suffered uncomplainingly for some years, but which she did not allow to interrupt her duties until the end came. Sister Constantine is still with us, devoting her life now as always to making St. Mary's Hospital a better place for the sick. Sister Fidelis has directed the cuisine in a manner unexcelled. Sister Fabian, through her familiarity with surgical cases and her tender care of the patients, has acquired so great a knowledge that her advice is sought in difficult cases by the medical staff of the hospital. Sister Sylvester has taught the world how the duties of the operating room should be performed.

"Executives of the character of Sister Mary Joseph are born, not made. Of tireless industry, strong individuality and personality, with intellectual capacity of the highest order, for more than thirty years she has been the guiding spirit and presiding genius of St. Mary's Hospital. Her indomitable courage, keen sense of justice, and sympathetic understanding of humanity, have enabled her to play the most important role in the development of this institution. She has served in almost every capacity in the work of the hospital. For twenty-one years she was first assistant in the surgical operating room, and of all the splendid assistants I have had, she easily ranks first. Her keenness of perception, clinical acumen, and delicacy of touch contributed to the success of many of the more difficult operations. The knowledge gained as nurse, operating room assistant, and matron of the hospital, brought out those qualities of mind and heart and hand which have made her one of the foremost authorities of the world in hospital work.

"Long may she continue to guide the destinies of St. Mary's."

Truly a splendid tribute to the Sisters from one who knows and who, because of the bigness of his mind and the genuineness of his heart, is able to appreciate and to be grateful. On the other hand, to the Doctors Mayo, the Sisters owe much. Dr. W. W. Mayo the father of the now famous sons, and a man of sterling qualities, was the Sisters' friend from the beginning. Keen and ready to recognize true value, fearlessly he upheld the Sisters, encouraged and constantly aided them towards their goal. Teamwork, fortified by mutual trust, aid and sympathy, has been the keynote of success in the association of the Sisters of St. Francis with the Doctors Mayo.

Having had the honor of rather close association with Sister Joseph during several years, the writer cannot pass on without making mention of a quality which deeply impressed him and has served as an inspiration. Sister Joseph's life has been an exemplar for the religious. Her confidence in God is supreme. With purest faith, frequently during the day she kneels before Him in the chapel, exposes to Him every nook of her mind and heart, offers to Him her all, and then faces the activities of her noble work with a strength of purpose that is unfailing.

A New and Complete X-Ray Department.

The X-ray department in the new surgical pavilion comprises twelve rooms as follows:

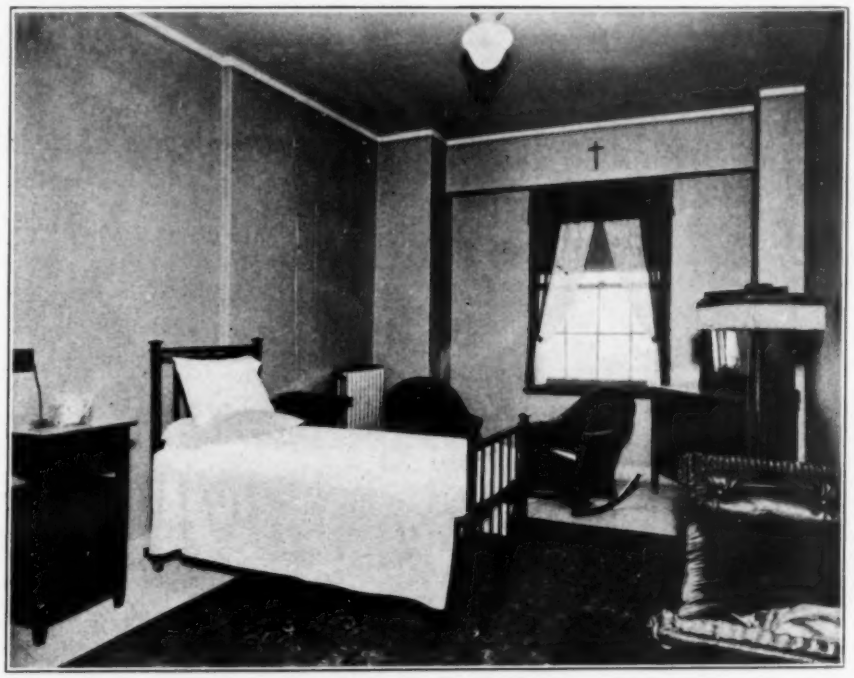
Radiographic
Fluroscopic
Treatment
Kitchen
Machine
Dark Room
Office
Demonstration Room
Storage
Three Dressing Rooms

and a large outside corridor fitted up as a waiting room.

The radiographic room is equipped for making X-ray plates either singly or stereoscopically of any part of the body. In the darkened fluroscopic room, the shadows of the heart, stomach, etc., are thrown on a fluorescent screen, permitting views at various angles of the organs in action and the effect of certain manipulations. The treatment room is equipped with special apparatus for the treatment of cancer and other diseases, both benign and malignant. The kitchen is used for the preparation of the bismuth mixtures which are administered for the examination of the digestive organs. In the medicine room is housed the large interrupterless transformer for

generating the particular type of electric current for X-ray work. The dark room for developing X-ray plates has a convenient tank system for this purpose. The office is used for keeping records and for the demonstration of X-ray plates in illuminated view boxes and in a wheatstone stereoscopic. Accessories and reserve supplies are kept in the store room.

Three dressing rooms with lavatories are provided for the accommodation of patients before and after examination. The large outside corridor makes a comfortable waiting room. All corridors of the hospital are especially wired so that a portable X-ray machine may be taken to the bedside of the patient who is too ill to be moved. The portable machine is also used in the operating room to locate kidney stones accurately during operation, to assist in the proper setting of fractured bones, to aid in the removal of missiles and foreign bodies, and for other purposes. All the X-ray apparatus is of the most modern type and covers every expected need. It was installed by one of the largest and oldest manufacturing companies in the country.



A TYPICAL PATIENT'S BEDROOM.

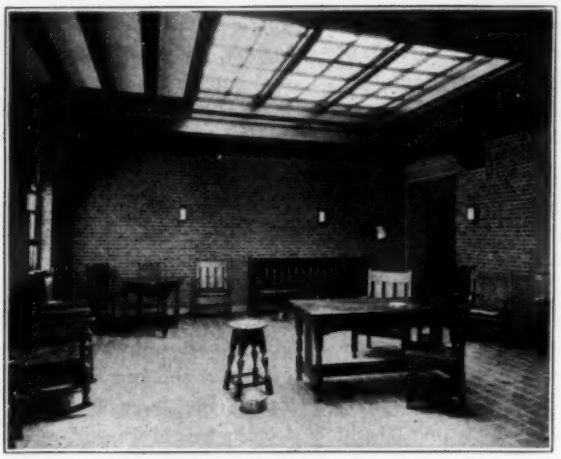
This department, in conjunction with the X-ray department of the Mayo Clinic, covering X-ray diagnosis and therapy, and radium therapy, has a staff of 38 persons. The staff consists of a chief, four associates, four assistants, ten technicians, five dark-room men, ten clerical helpers, and four Fellows assigned for service by the Mayo Foundation.

Department of Diagnostic Pathology Improved.

During the last fifteen years a new specialty has arisen in the practice of medicine and surgery. This has been brought about by the use of microscopic pathological examinations of the tissues of living patients. Operative surgery, which has reached its highest development in the last twenty-five years, has been responsible for the evolution of this special application of pathology to the living patient for diagnostic, prognostic, and therapeutic purposes.

In seventy-five per cent of all patients, the diagnosis can be made by ordinary methods, but in twenty-five per cent, special methods in the hands of specially trained experts must be applied. The new department of living pathology cares for at least six to fifteen per cent of this twenty-five per cent which require special methods. Floor space of 3,192 square feet has been set aside on the operating room floor for this purpose. This space has been divided into: One large diagnostic laboratory, one laboratory for the preparation of material for the investigation of tumors by special methods, two rooms for the special study of bacteria in connection with surgical patients during examinations for diagnostic, prognostic and therapeutic purposes; one lecture room for the teaching of Fellows of the Mayo Foundation and visiting physicians and surgeons; three rooms for the special investigation of cancer and allied subjects in connection with further improvement in treating these conditions; one room for statistical study of cancer and allied conditions; one permanent record room; two photographic rooms, to be used in the preparation of material for teaching purposes and records.

St. Mary's Hospital, as a part of the Mayo Clinic, is the first hospital in the world to originate and develop this new activity in pathology in its application to living patients on a large and practical scale; ample provisions have been made for this in order to further advance the science and practice of medicine and surgery in caring for human suffering.



PATIENTS' SMOKING ROOM.

On the floor above the operating unit, a large teaching museum equipped in the most modern fashion has been set aside for the Fellows of the Mayo Foundation and volunteer students from various universities in this and other countries. Adjoining this museum is a large reading room which will be operated as a subdivision of the library of the Mayo Clinic.

An Orthopedic Department Added.

The seventh floor of the east wing of the new Surgical Pavilion is assigned to patients requiring orthopedic operations and care. A large percentage of these cases are children afflicted with joint or bone tuberculosis. The room plan is unique, the rooms are arranged in pairs, each one provided with hot and cold water, toilet, and closet, and each room opening onto a porch common to two rooms. Such an arrangement is ideal, as it gives the all essential open air life to the tuberculous patient, even though confined to bed, as the doors are wide enough to permit the bed to be wheeled out onto the porch.

Provision has been made for the treatment of tuberculosis and certain other conditions by direct action of the sun's rays. This must be done in the open, not even glass intervening, but sufficiently protected from the high winds. Dr. Rollier in Switzerland has shown that the sun's rays exert a most beneficial effect on tuberculosis of the bones and joints. High up in the Alps he has demonstrated that the cold weather does not make impossible the carrying out of this form of treatment. The Minnesota climate is no more rigorous than the winter in the Alps, and heliotherapy can be readily carried on here.

On the south end of the wing is a large sun parlor. Diet kitchens, dressing rooms, and baths, are beautifully appointed and render this section a unit in itself, convenient for the nurse, patient, and doctor. At the north end of the corridor the nurse's desk is so placed as to command the entire corridor and is provided with enunciators designating the patient who desires attention. The entire arrangement suggests roominess, airiness and quiet. The view from this floor is beautiful, commanding the valley of Cascade creek with a glimpse off to the southeast of the Zumbro valley where the stream winds its way down to the Mississippi.

SOME STRUCTURAL DETAILS OF ST. MARY'S SURGICAL PAVILION.

The new surgical pavilion of St. Mary's Hospital is shaped like a capital U, with the bottom of the letter squared off instead of rounded. This building is placed to the west and slightly in front of the old hospital group, with its long side fronting on Second street Southwest, the open court between the wings facing the hospital farm to the south.

The pavilion is seven stories in height, exclusive of a generous basement space. It is connected with the old buildings by a five-story wing placed on the axial line of the main corridors of both buildings. The new building is designed in Renaissance style, developed in golden brown, rough textured brick, trimmed with Indiana limestone, with rough-faced base of coursed ranged rock from the Mantorville quarries, similar in color and texture to that of the old buildings.

The structure towers several stories above the roof of the adjoining buildings, but the impression of solidity apparent in the design of the lower stories is softened and lightened in the upper stories by the large openings of the operating room, with their balconies of pierced wrought iron, and framed by light iron columns supporting an iron entablature with a lace-like wrought iron chennaux. Marble panels inset in the motive of the upper stories sound a color note which is reflected in the green of the surrounding iron work. The building is crowned with a delicately articulated cornice of stone and terra cotta.

Peculiarly enough, for a structure of this magnitude, there is no exterior public entrance to the building. Problems of hospital administration make it necessary for all incoming patients and guests to be received at the general office in the administration center, whence they are conducted to the new building. An exterior entrance for visiting physicians is provided, however, in the connecting building, the stairways and elevators having been so located as to make possible their going

LIBRARY—NURSES' TRAINING SCHOOL.

directly to the quarters assigned to them on the sixth floor without traversing other portions of the building. Exterior entrances also are located at the west end for the ambulance service, in the court for the nurses' training school, and the kitchen entrance in the service end of the east wing.

The kitchen, with its store and service rooms, is located on the ground floor. This room extends from wall to wall of the wing, an arrangement providing an abundance of light and a complete aeration throughout the year. Adjoining this room to the rear is a large vegetable preparation room. This room might almost be called a porch, the windows being large and numerous, so that workers in this space will be spared much of the inconvenience usually attendant upon institutional work of such a nature. Adjacent to this space is the receiving room for incoming supplies, with a service lift to the basement storage rooms.

Much study was given to the problem of supplying hot food to the patient's bedside. Each patient floor has three serving rooms, one in the east, west, and center wings, respectively. A separate food cart of steam-table construction is provided for each serving room, and space is allotted for the storage of these carts in the kitchen when they are not in use. The food elevator conveys the cart to its assigned floor, whence it is taken directly to the serving room, and the food served piping hot by tray service to the patient.

The entire service section, including kitchen, bakery, preparation rooms, receiving room, etc., is lined with glazed brick to the ceiling, and has floors of quarry tile with cove base, making for a minimum of care in cleaning and upkeep.

The center wing of the ground floor contains the dining rooms for service help, nurses, Sisters and interns, and the soiled linen receiving room. The soiled linen is deposited here from the floors above through glass-lined clothes chutes; is sorted, and then conveyed by trucks to the laundry, a separate building, connected with the new building by a tunnel.

The nurses' training school occupies the ground

NURSES' DINING ROOM.

TYPICAL SERVING ROOM.

floor of the west wing, and comprises a large lecture room, two class and demonstrating rooms, a chemistry laboratory, a large departmental library, and the offices of the director and principal of this large and important department.

The first, second, third and fourth floors of the pavilion are similar in arrangement. Centrally located on the north side is a generous, comfortably furnished room, set apart for the use of relatives and friends of the patients. Each floor accommodates approximately 75 patients, in either single or double bed wards, with the exception of two wards having five beds each.

A somewhat flexible arrangement has been worked out for the typical bed rooms. Each room has its individual toilet room, with a bathing room common to each pair of rooms. The patient may thus secure a room with toilet accommodations only, or a room with toilet and bath. The corner rooms are also arranged to be assigned en suite, providing for a sitting room with adjoining bed rooms, if the patient so selects.

Surgical dressing rooms and laboratory, general toilet rooms, nurses' rooms, serving rooms, stairs and elevators occupy the court side of the center wing on each of these floors. At the south end of the east and west wings, large, closed porches, or solariums, open directly from the corridors.

All bed rooms and corridors have terrazzo and marble floors and brown walnut stained woodwork. The patients' bath and toilet rooms have tile floors and wainscots, and enameled woodwork. All service rooms on these floors have tiled floors and wainscots of marble.

The east wing of the fifth floor is occupied in part by interns' quarters. These are double rooms, with private bath for each room. A large living room is centrally located in this group. There are accommodations for 24 interns on this floor. The east wing of the sixth floor also is similarly used, providing accommodations for 32 occupants. The remainder of the fifth floor is occupied by the operating rooms and their accessory departments. There are eleven operating rooms, two stories in height, seven of which have north light, and,

A STERILIZING ROOM

with the exception of the large clinic amphitheater, all have zenith lights.

These operating rooms are grouped in pairs, each pair having a wash-up and sterilizing room in common. Ten of these operating rooms are similar in size and equipment, with gallery space for 30 physicians. The galleries surround the arena on two sides, and are accessible only from the sixth floor. The windows of all the operating rooms have double frames, separated approximately 2′ 0″. In the ten small operating rooms these windows have a glass area of approximately 180 square feet, and are glazed with plate glass for the exterior sash and polished pyramid glass for the inner sash. The space intervening between sash is provided with heating coils, and serves also as a cleaning gallery. Small casement windows give access to this space and to the cleaning balconies on the exterior. The skylights of the small operating rooms have a glass area of 150 square feet, and are also glazed with polished pyramid glass. Gallery seats, floors and rail are of terrazzo, with polished white metal leaning rails. The arena floor is of gray flint tile in "2" units; and, with one exception, all operating rooms have matt finish cream colored tile wainscots 7′ 0″ high. In the fluoroscopic operating room, wainscot tile of blue gray color was substituted for the cream colored tile used elsewhere.

The clinic amphitheater is in the center of the north wing. The seat banks surround the arena in semicircular form, and 200 seats have been provided for physicians visiting this clinic, the most distant seat being but 26′ 0″ distant from the operating table. The arena is lighted from the north only, this window having a glass area of 285 square feet. The seat banks are of reinforced concrete finished with terrazzo. The arm rests and hand rails are of polished white metal, the arena floor of gray flint tile and 7′ 0″ high wainscot of cream colored tile. Entrance to the clinic gallery is from the sixth floor only. A large instrument room adjoins this operating room on the east, while the sterilizing and wash-up room opens from it to the west. The windows in the amphitheater are equipped with motor driven light proof shades, with switch control in the arena. There also is provided a standard fireproof motion picture and stereopticon booth for clinic use.

On this floor also are located the general laboratories for pathological study and research, and a large Roentgenoscopic department completely organized for X-ray photographic and exploration work. The rest of the space is assigned to consultation rooms, surgeons' shower and locker rooms, interns' and nurses' locker rooms. All sterilizing rooms, instrument rooms, and laboratories have floors of gray flint tile and wainscots of matt finish cream colored tiles. Corridor floors are of flint tile and all the woodwork has enameled finish.

The sixth floor is set aside in part for the comfort and convenience of visiting physicians and surgeons. As the visitor leaves the elevator on this floor he exchanges his outer wraps for the white "cover-all" of the surgeon, and proceeds to a large, well appointed lounge and waiting room. An electrically operated bulletin indicates

the number of the operation in progress in each operating room. Adjoining this bulletin is a specially designed view box in which X-ray plates show the diseased conditions for which the operations are to be performed during the day. The galleries of the various operating rooms are entered directly from this waiting room or the corridors adjoining. The studios and drawing rooms of the staff artists, whose duty it is to illustrate graphically the diseased condition uncovered in the operation, occupy a portion of the west wing on this floor. A large area of this wing is given over to the pathological museum and library.

The east wing is carried up an additional story to provide a somewhat segregated department for the care of tuberculous and other bone diseases. This wing accommodates 16 patients in single rooms, each having an individual toilet room, and each pair of rooms having a separate enclosed porch. In addition, there is a large solarium at the end of the wing, as on the floors below. This department has its own serving room, utility rooms, bathing facilities, etc., and is similar in finish to the rooms below. There is also a large club and smoking room for convalescent men patients on this floor. It is reached by elevator from the floor below through a large lobby on the top floor, so that it is easy of access to wheel-chair patients. This has been made an attractive, well appointed room, similar to the lounge of the men's club. The walls are of mellow brown toned brick inset with decorative colored tiles; the ceiling is beamed in oak, with carved wood corbels, and the floor is of quarry tiles. Opening also from the lobby on this floor, a passage gives access to space on the roof, which is used for heilotherapeutical treatment. The floors throughout are of either terrazzo and marble or tile. The main stairways, five in number, are of terrazzo. Door frames, except in minor instances, are of steel. Wainscots, table and sink tops in serving rooms, utility rooms and all service portions are of dense marble. Except for cupboards, closets, laboratory tables, studio cases, etc., there is a minimum of wood in the building. Doors throughout—and there are approximately 2,500—are of the flush veneered sanitary type. Blanket warmers, electrically heated, are lined with opal glass. All instrument cases, sterile supply cases, museum cases, view boxes and built-in features in the operating suites are of enameled metal. All elevator doors and cabs are of metal, enamel finished.

Laboratory tables have either glass or linoleum tops. Table tops in the kitchen and food preparation rooms are of marble or covered with block tin. Refrigerators throughout are of porcelain enameled steel, with trimmings of German silver.

A service tunnel leads from the basement of the new building to the power plant and the laundry. All service and power lines are carried through the tunnel in the basement of the new building and thence distributed in various parts of the structure. Aside from a small morgue and autopsy room, and several small areas occupied by ventilating apparatus, the basement is used for surgical, hospital, and food storage.

Mechanical equipment throughout the building is of the latest type and construction. Heating of the building is accomplished by direct radiation connected to a two-pipe vacuum system. As the basement of the building is below the pump room of the power house, an electrically driven vacuum pump provides circulation for the heating system.

The operating room section of the building on the fifth floor has automatic temperature control. Exhaust steam is used for heating, with emergency live steam make-up, in extreme weather. Exhaust ventilation only is provided in all toilet rooms, kitchen, operating and sterilizing rooms. Complete fresh air and exhaust ventilating system is installed for class and lecture rooms.

Tubs, lavatories and closets of patients' rooms are of the highest grade of porcelain or vitreous china fixtures, the tubs being of recessed built-in type, and closets of special design, equipped with bed pan flushing spouts.

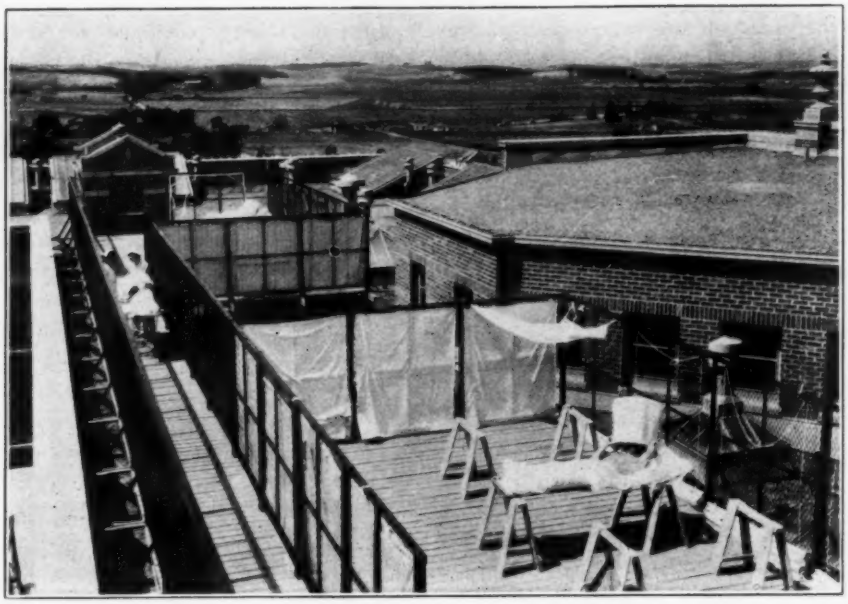
Operating rooms are equipped with two large porcelain wash-up sinks, each having pedal valves and aspirator connections. The sterilizing room adjoining the museum on the sixth floor has a complete equipment of fixtures, consisting of solid porcelain autopsy table, wash-up sink and hopper.

The kitchen equipment comprises a complete installation of the most modern type, including kettle, steam tables and gas ranges. Serving rooms are equipped with electric ranges.

Lighting and power service is supplied from the hospital power plant. The nurses' call system is of the silent type, installed on each of the four bed room floors, with a main annunciator built into the desk of the head nurse on each floor.

A unique system of doctors' calls has been devised for the building. A central automatic calling station is located at the main telephone switchboard in the general office, arranged to send code signals throughout the entire building. The nurse on each floor can also send out calls from her desk to that particular floor only. Intercommunicating telephone service is maintained through a private automatic exchange. Numerous stations connect to the city telephone system.

The elevator equipment was contracted for only after a great deal of study and investigation. There are four main elevators—the passenger, food, service, and surgical. These lifts are carefully located with reference to their use, and are electrically operated. They are equipped with self-leveling devices, which assure a flush stop at each floor, a feature of extreme importance where so much of the traffic is in wheeled chairs or carts. All elevators are equipped with safety interlocks. In addition to the main elevators, hydraulic lifts have been installed for morgue and supply service.



HELIOTHERAPY SECTION ON THE ROOF.

The considerably increased demand on the power, heating, and lighting units necessary, made imperative extensive alterations in the hospital power plant. An additional 150 H. P. boiler was installed to supplement the five of the original installation. A new 250 K. V. A. direct connected engine generator set was installed, and a new and much augmented switchboard erected in place of the original one.

The increased load on the refrigeration plant necessitated a complete reorganization of this equipment. The old 12-ton carbonic acid gas compressor was supplemented by a new 30-ton unit, located in the power house. The brine cooling and ice making tank and the brine pumps are located centrally in the basement of the old laundry building.

Hot water is supplied for the new building by means of two large steam heated tanks. An auxiliary reheater furnishes sterile hot water for the operating rooms. All hot water is softened by a zeolite type water softener.

The architect was C. H. Johnston, St. Paul; the general contractors were M. Heffron and William Fitzgerald of Rochester. In a word, in plan, construction, and equipment, the new surgical pavilion of St. Mary's Hospital may well be pronounced excellent, a great contribution to humanity and the medical world.

Bacteriology and Applied Immunology

Robert A. Kilduffe, M. D., Pittsburgh, Pa.

(Continued)

Inoculation of Culture Media:

The introduction of bacteria into the culture medium is called *inoculation.* Incubation at suitable temperatures then results in growth.

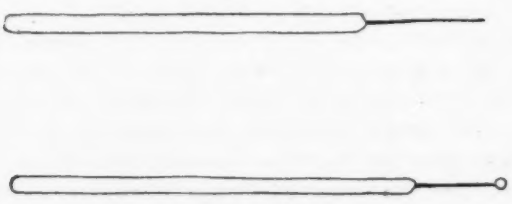


FIG. 16.

Culture media are inoculated with small amounts of the material to be studied either by means of sterile pipettes, or with straight or looped pieces of platinum wire. The platinum wire is fixed in holders and is used because of the ease with which it may be sterilized in the flame, rapidly reaching a red heat and as rapidly cooling. (Fig. 16.)

The inoculating needle, either straight or looped, is heated to redness in the flame, thus destroying all forms of bacterial life which might be upon it, allowed to cool, and then dipped into the material which it is desired to culture—pus, for example—and then, under sterile precautions, either passed lightly over the *surface* of the culture medium if solid, or into the body of the fluid medium. In the case of solid media, if the surface only is inoculated, the culture is spoken of as a "streak culture"; if the wire is thrust beneath the surface, the culture is called a "stab."

When withdrawn from the culture tube, *the wire is again sterilized in the flame.*

Blood and other liquids may be placed directly on the surface of solid media or allowed to flow into liquid media under sterile precautions.

NOTE: This article is the third of an important series of papers on Bacteriology and Applied Immunology. It is especially written for nurses and hospital workers and constitutes a brief, comprehensive and directly usable discussion.—ED.

If the presence of an anerobic variety is suspected, then the tube or flask, after inoculation, is filled with hydrogen gas or the contained oxygen is absorbed by means of a mixture of pyrogallic acid and sodium hydroxide, or both methods may be combined. After the removal of the contained air the surface is often covered with a layer of sterile oil to act as a valve against the further introduction of air.

It is, of course, evident that, if the pus or other material cultured contained more than one species of bacteria all will grow in the culture medium and there will be no means of determining which was responsible for the specific effects produced, such as the coagulation of milk or the liquefaction of gelatine, for example. Such a culture containing more than one species of bacteria is called a *mixed or impure culture. A pure culture* is one containing only *one* species of bacteria.

Method of Obtaining a Pure Culture:

This is done by means of a series of progressive dilutions in agar tubes.

If a series (three or four) of agar tubes is melted and then cooled to 40°C, at which temperature bacteria are not killed, and the first tube is inoculated with a loopful of a suspension of germ-laden material in bouillon or salt solution, it will contain a large number of the mixed organisms. If, then, the loop is sterilized and a loopful carried from the first tube to the second, again sterilized and a loopful carried from the second tube to the third and so on, it is evident that the dilution of the bacterial suspension becomes progressively greater in each successive tube.

The melted agar tubes are then rapidly poured into a series of flat, sterile, numbered dishes called *petri* dishes or *plates,* which are covered with loosely fitting sterile glass tops. (Fig. 17.) This process is called *plating.*

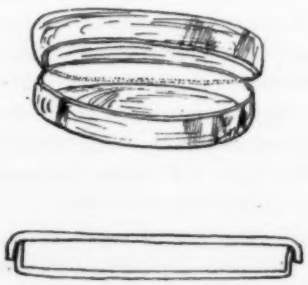


FIG. 17. PETRI DISHES.

Now, as the agar cools and solidifies the bacteria suspended in it are held fast wherever they happened to be when solidification occurred and each, on incubation, reproduces its own kind in a restricted area.

After a suitable period of incubation, on inspection the surface of the agar and also the depths will be found to be sprinkled with small masses of various size, shape, and color, each being the mass of bacteria resulting from the reproduction of a single bacterial cell. These collections of individual growths are called *colonies.*

If such a colony is touched with a sterilized inoculating needle, and a small portion of the growth transferred to a sterile tube or flask of suitable culture medium, the resultant growth will be the offspring of a single type of organism and the tube will contain only representatives of that type and will be, in other words, a *pure culture.*

A variation of this method is to make agar plates first and allow them to harden. A small drop of bacterial suspension is placed on the first plate, thoroughly rubbed over its surface, the needle then, *without sterilization,* carried over to the next plate which is thoroughly smeared with the small amount of material still remaining on the needle, and this process repeated as often as desired. Such plates are called *streak plates* and each will contain a progressively smaller number of colonies after incubation, some of the series having them sufficiently far apart and scattered to allow of selection without fear of contamination from the neighboring growths.

The process of securing bacteria in pure culture is spoken of, briefly, as *isolation.*

Cultivation of bacteria: Incubation: The three requisites for bacterial growth are food, moisture, and the proper temperature. The culture media upon which the bacteria are planted or inoculated furnish them with food and moisture, and the next step in their cultivation is to assure the maintenance of the proper temperature. This is attained by means of hot chambers or *incubators* of various types and the process is spoken of as *incubation.*

The temperature at which growth occurs varies with different species of bacteria. While many bacteria

FIG.18. INCUBATOR.

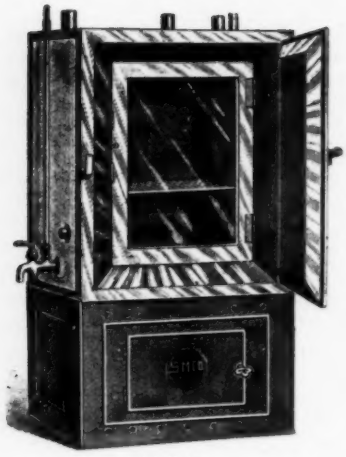


FIG. 18A.

FIG. 19. DRY HEAT STERILIZER.

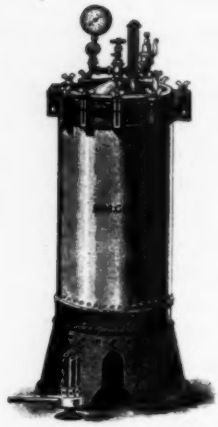


FIG. 20. AUTOCLAVE

grow vigorously at ordinary room temperature, and some species, such as the water bacteria, grow well at even comparatively low temperatures, the majority of pathogenic organisms attain their greatest rapidity of growth at body temperature—37.5°C. For all bacteria there is a *maximum* temperature and a *minimum* temperature beyond which growth does not occur, and an *optimum* temperature at which the most vigorous growth takes place.

The usual form of incubator in common use consists of a double-walled chamber heated by either gas or electricity and fitted with a regulator or thermostat which so controls the source of heat as to maintain the temperature at a constant level which may be varied as desired. In the gas-heated forms the space between the walls usually contains water which disseminates the heat throughout the chamber; in the electric forms the space contains some insulatory material to prevent heat loss, the air within the chamber being heated by electric light bulbs or special heating units. (Fig. 21.)

In emergency cultures may be successfully incubated in a vest pocket, deriving heat from the body, or the tube may be suspended by means of a string in the ordinary thermos bottle which has been half filled with water at body heat.

With the exception of some organisms presenting marked susceptibility to temperature changes, such as the tubercle bacillus, meningococcus, pneumococcus, gonococcus and others, many of the ordinary pathogenic bacteria will grow well, though somewhat slowly, at room temperature.

The Destruction of Bacteria:

Nothing, in the practical application of the knowledge derived from the study of bacteriology, has been of greater assistance in the war against disease than the development of the factors which bring about the destruction of bacteria. Indeed, upon the development and application of this knowledge the progress of medicine and surgery depends. Familiarity with the terms and methods concerned with the destruction of bacteria is, therefore, essential.

Sterilization is the *complete destruction* of bacterial life.

Disinfection is the complete destruction of bacterial life *by chemical means.*

Antisepsis is the *inhibition* of the growth and multiplication of bacteria *without necessarily causing their death.*

The agents used for the inhibition and destruction of bacterial life are exceedingly numerous and may be either physical or chemical.

Physical Agents:

1. *Drying:* Complete drying eventually causes the death of most bacteria, including pathogenic forms of bacteria, though different species vary in their resistance to the effects of drying. *Drying is ineffectual for the destruction of spores.*

2. *Light:* Direct sunlight, *in the absence of moisture,* is a powerful germicide for most forms of bacteria but is rarely applied for a sufficient length of time under favorable circumstances to have much practical value. Light emanations from electric lights, roentgen rays, and radium are all inhibitory and germicidal, depending upon the length of time they are applied, but have little practical value.

3. *Heat:* This is the most efficient and most widely used physical agent. Bacterial death results from a prolonged exposure to moderate degrees of heat, or from short exposures to high temperatures. Properly applied, heat is effective for both spores and vegetative forms.

It may be applied as (a) Moist heat, or (b) Dry heat, both methods having an equal value.

Practical Applications of Sterilization by Heat:

1. Burning: Destruction by flame is a certain method of sterilization for articles of no value. The inoculating needle in the laboratory is best sterilized by heating to redness in the flame.

2. Dry Heat: Sterilization by Hot Air: This method is best carried out in a double-walled oven fitted with a burner and thermometer. (Fig. 22.) Such a contrivance is called a Dry Heat Sterilizer. Heating for one hour at a temperature of 150°C to 165°C is necessary for complete sterilization, including the destruction of spores. This method can be used for articles not injured by exposure to such a temperature and is the method used in the laboratory for glassware, etc. In emergency articles may be wrapped in newspapers and heated in the ordinary kitchen oven until the papers chars, this degree of heat being maintained for one hour.

3. Moist Heat: Instruments, syringes, etc., may be sterilized by boiling in water. An exposure of ten minutes in boiling water is usually sufficient to kill vegetative forms *but will not destroy spores.*

The addition of five per cent phenol (carbolic acid) renders the method more effective for spore forms and most spore forms can be destroyed if the boiling is continued for thirty minutes. The addition of one per cent of sodium carbonate will prevent rusting.

Live Steam: This is the most practical method for the utilization of moist heat. In hospitals and laboratories devices are made use of on the principle of the Arnold sterilizer in which the steam generated from boiling water passes through a chamber in which the articles to be sterilized are placed. The temperature attained by such a method is about 100°C and must be maintained for one hour.

The method may also be used satisfactorily by using the ordinary steam cooker of the kitchen. (Fig. 21, Arnold sterilizer.)

This method is frequently made use of for various kinds of culture media which would be injured by exposure to steam under pressure, such as those containing sugars which would be destroyed or altered by steam under pressure. The method, when used for culture media, is called *fractional sterilization.* By this is meant the repeated exposure of the culture media to live steam for 30 minutes on each of three successive days. The first exposure destroys all vegetative forms; any spores present will develop into vegetative forms in the twenty-four hours elapsing during which the medium is kept at room temperature, and are then destroyed by the exposure of the second day. A repetition of this procedure on the third day, as a rule, results in complete sterilization.

FIG. 21. STEAM STERILIZER.

Steam Under Pressure: This is the most powerful method of sterilization at hand. It is applicable to any article not injured by moisture and particularly to the sterilization of fomites, clothing, and culture media in general.

A convenient form of apparatus is called an *autoclave* (Fig. 20), and exposure to steam for fifteen minutes at fifteen pounds pressure is sufficient to destroy all forms of bacterial life, including spores.

Chemical Agents:

The exact manner in which chemical agents act to destroy bacteria is not completely understood. Some substances act by oxidation, others by direct combination with the bacterial protoplasm, and still others, apparently, by some electrolytic process.

Chemicals in ordinary use are:

Alcohol: Does not destroy spores. 50-70%. Alcohol in greater concentration is not as effective as the weaker solutions because, by reason of its action as an albumin coagulant, it tends to surround the bacteria with a firm layer of coagulated albumin, thus protecting them from the action of the solution.

Bichloride of Mercury: in 1:1000 solution, (20 minutes), or 1:5000 solution, (40 minutes) this drug is an effective germicide. It is also an albumin coagulant and must, therefore, be brought into direct contact with the bacteria. The addition of common salt or a small amount of hydrochloric acid tends to lessen the action as an albumin coagulant and enhance the effectiveness of the solution.

Carbolic acid (phenol): used in five per cent aqueous solution. An exposure of ten minutes will destroy vegetative forms but not spores unless the exposure is greatly prolonged.

Lysol, Cresol, etc.: Coal-tar derivatives and derivatives of phenol which are effective in two to ten per cent solution in about the same degree as carbolic acid.

Chlorinated Lime: an effective germicide acting mainly by oxidation. Milk of lime is made by adding four parts of water to one of slaked lime.

Formalin: This is the trade name for a forty per cent solution of formaldehyde gas in water. It is very effective, both for spores and vegetative forms, in four per cent solution (one part of formalin to nine parts of water.)

Gaseous Disinfection: this method is used entirely for the fumigation of rooms, etc. The gases used are sulphur and formaldehyde. The method will be discussed in a later section.

It is of great practical importance to remember that practically all disinfectants and antiseptics are also vigorous coagulators of albumin, and, therefore, weaker solutions are more efficacious in general than stronger ones. The reason is plain. It is evident that, for the most efficient action to occur, the disinfecting agent and the bacteria must be brought into contact. If a strong solution is added to feces or sputum, for example, because of its coagulant action upon the albuminous material present, the solution will erect a wall of coagulum against itself and will be unable to penetrate throughout the entire mass. There will then be apt to be a central core of moist, unchanged material which will contain living bacteria which have not been attacked by the disinfectant and which may be liberated later should the wall of coagulum surrounding them be broken.

(To be Continued.)

Hospital Progress

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"THIS HAVING YOUR TONSILS OUT."[1]

No segment of the human body holds its lease as insecurely as do the tonsils. Other devices in our mechanical economy may rattle and knock and lose power, but it is too much of a job to take down the crank case and they are allowed to go on their way unless the " 'bus' actually quits."

However, like modern "valves in the head," the tonsils are certainly accessible to almost any ordinary medical mechanic, and he no longer needs much encouragement: usually he is already disposed to view your tonsils with concern; he has seen many people with "vague aches," so he readily classifies you as an evil suspect. He races the motor a little, listens to the knock, squeezes a little concretion out of the cryptic bearings, and walks to the window with the injured air of a man called upon to perform an unpleasant duty. As his skill has increased from much experience with his favorite technique, his disgust grows, and his esthetic proclivities are in full keeping with his white coat and polished mirrors—I mean manners! You are soon checked for a train of "locals," and given a bill of lading; you are told that there are a few trains with "heavy sleepers," but that little accrues from traveling the "lighter than air" route—anyway, ether is unpopular.

"Yes, eat your ordinary breakfast, and come at 8:30 A. M." This he should modify to read, "Eat six extraordinary breakfasts," because that is about the exact number the ordinary adult loses whose tonsils have taken a kindly attachment to their environment and resist ejection.

There is some moral exultation arising from having some members of the family in attendance on a "local" removal. If it happens to be your fourteen-year-old son, there is observed a certain sportiness about sitting up and sputtering into the bald-pated dome of the tonsil "teaser." Anyway, said son remarks that he isn't afraid of blood because he has seen them "kill pigs down on the farm."

You may certainly believe the "vague pain" dispeller when he firmly asserts that the local anesthetic obviates all pain. This is remarkably true—the discomfort and commotion start later. A woman who styled herself "very nervous," once told me gravely that the noted tonsillectomist, who "pulled her tonsils out," immediately put an injection into her arm, that "drew all of the poison out of the throat." She "took a taxi back to the hotel," but she "really could quite as well have walked." She alleges she ate a hearty dinner, but immediately avers that the fifth day was a great disappointment to her—the pain was extreme.

Granting the full danger of being dubbed an extreme "neuro," I wish to chronicle in order of their development some of the postoperative features that should give the operation of tonsillectomy a little more "class," and provide for the patient a little more postoperative attention, both from himself and from his attendant.

Peri-inflammatory edema is an accepted pathological entity; trauma about the tonsillar bed sets up a sero-sanguinolent infiltration, and the inflammation, even if not abetted by some bacterial infection, makes a rubber curtain out of the pillars and a concrete staff out of the uvula. In any case, the passage is quite effectually blocked. One can avoid food or drink, but not air. This function of breathing must persist. Let it be recalled that the larynx is in front of the oesophagus—hence, the currents of air from above must cross diagonally the mouth channel leading to the oesophagus. Ordinarily, this way is kept clear by frequent swallowing; saliva, debris or food do not tarry above the epiglottis. Also, the act of swallowing is a very complicated act, calling into action numerous groups of muscles as well as highly specialized nerves. Therefore, though you become as thirsty as the proverbial "fish," and as hungry as the equally proverbial "pup," and though you fully abstain, you still must needs swallow just the same. What you are swallowing is not the point —the clutching muscles of the throat must clear the way in any case, and the result is a pull that begins above with the ears and ends with a dolorous glow

[1]Part of the Editorial Staff evidently had "his tonsils out" So many doctors, Sisters and hospital attaches do likewise, that he feels this editorial diversion is not entirely amiss.

suffused over the teeth sockets, the temples, and down into the neck.

Someone says, "Swallow ice cream"; nothing for three days gave me quite as much distress as ice cream, although plain cream was quite satisfactory. It seems to hurt as much to swallow a dainty bit, or even to gulp, as it does to engulf a fair bolus. Gradually the demand for food becomes more insistent; a velvety slough covers the raw surfaces; you see hope, and engage a lingual "traffic cop" to direct sustenance around the uvula. Then suddenly the velvety fibrin wears through, and about "the fifth day" the throat sizzles on the slightest touch. You develop a supreme contempt for the whole idea of focal infection, and decide the next time when in search of adventure to have a leg amputated. Then suddenly the edema goes, the posterior nares are again navigable, and you cannot "hear yourself every time you swallow." Only the morning grief remains of loosening up the fibrinous concrete and getting a little team play into the throat muscles. Eventually there comes a morning when even that is a negligible factor: Oh, Boy! "Isn't it a grand and glorious feeling" to have your tonsils out. —E. L. T.

THE HOUSE GOOD NURSES BUILD.

I like to think of the nursing Sisters' work as a beautiful edifice, the foundation of which is hard work.

One of Dr. Osler's finest essays is called the "Master Word." This "Master Word" is the key not only to the mysteries and beauties of the past ages but opens up to those who possess it, all the glorious outlooks of the future, as well as making the present happy and contented. The master word is, Work. Very properly then, it forms the foundation of this edifice.

The walls of this edifice are built of brains, character and culture. It is hard to conceive of a truly good nurse who has not good brains. It is not necessary of course to be a genius, unless we take for the definition of genius, that given by somebody as being nine-tenths' hard work and attention to detail. Nevertheless, the truly efficient nurse must have enough gray matter to master the details of what is after all in its humblest sphere a great calling.

The good nurse, too, must have culture. Not necessarily that sort acquired at a finishing school, or supposed to attach to an academic degree, but she must have innate refinement, a sensitive, sympathetic nature and an appreciation of the properties of good society and social good breeding.

More necessary than brains or culture, is character. By this we mean ability to see straight and act honestly; to meet situations as they arise without either cowardice or prevarication.

The door of this edifice is opportunity. As the profession of nursing has developed into so many diversified fields, the opportunities for a trained nurse have become enormous, and it is for her to avail herself in full measure of these opportunities to fill her place in the social economy, whether it be in hospital, home or other of the various fields where the trained nurse is now giving such splendid service.

The windows of this edifice, let us call obligation, because with the great opportunities open to the trained nurse, goes the obligation of giving all her intelligence and energy to the carrying out of the opportunities given her.

Let us call the furniture of this edifice, service, and if the nurse be true to herself, the house will surely be well furnished, for everywhere and every day there is presented to the conscientious, intelligent nurse avenues of service that she must not evade.

The roof to such an edifice is naturally accomplishment. Our figures of speech may be neither apt nor happy, but if we have succeeded in conveying to our hospital Sisters and their nurses in training, some idea of what we conceive to be the high calling of a well trained, conscientious, forward-looking nurse, we are content.—*E. E.*

HOSPITAL NORMAL SCHOOL.

With one or two exceptions all the Sisters who have been consulted intimate by their correspondence that they are enthusiastically interested in having a "Normal School" for the training of hospital executives, postgraduate nurses, and technicians of all kinds. This is encouraging and gives promise of achievement. Necessarily there will be hesitation and insurmountable difficulty during this first year in the minds of many Superiors to give active assistance in the establishment of a first Normal School. Shortage of Sisters, lack of full understanding of what the school will do for the betterment of hospitals and, perhaps, in some few instances inability to meet the expense, will hinder some Communities from taking an active part in the establishment of this first school.

But, thank God, it looks as though there will be enough Communities who appreciate the value of a "Hospital Normal School" and who will overcome all difficulties and obstacles and take an active part in the establishment of a *first* Hospital Normal School.

All can rest assured that the school will not be begun except on a basis of thorough and high-grade organization and management in regard to the spiritual, academic, practical and financial aspects of the undertaking. Before anything final is decided upon, the Executive Board of the Association and the Sisters representing a considerable number of the Hospital Communities will be consulted and be given the opportunity to decide on the wisdom and practicability of this very important undertaking. All should give this project their deepest consideration and be prepared to make sacrifices of all kinds when the time comes for action. Clear-headed determination and courage, joined with a simple trust in Providence, will make practicable what seems first so difficult of achievement. We must be brave and trustful in the assurance of God's assistance. —C. B. M.

THE INTERN PROBLEM.

"Please get us an intern." This is one of the most frequent requests that we receive; and, in not a few instances, not only one, but several interns have been wanted. As holds true elsewhere, regretfully we are unable to supply the demand. Obviously this is a serious problem and one whose solution is not promised for the near future. The question is, how can the hospital's need of such service be met? In places where there are medical schools some hospitals are being helped by medical students acting as clinical clerks; and this policy is proving to be of considerable benefit to the student as well as to the hospital. But hospitals otherwise situated cannot thus be supplied. We, as well as others, have suggested the *resident physician* as a part solution, at least, of the problem, and there is evidence that this idea is meeting with favor. It appears that some interns, whose service is about to be completed, would be glad to consider a proposition of resident physician if the inducements were made attractive. In one of the large hospitals of the East, this summer we talked to a group of interns on the question. They became interested, and one immediately remarked that he would not mind considering such a proposition if the terms were right. And this presents a suggestion for the Sisters to act on: Why not formulate a definite plan for a resident physician and send out a notice to be posted in various hospitals, stating the inducements that you have to offer. Besides requiring reliable recommendations of an applicant for the position, also have him visit you, in order that you yourself may estimate him in the light of your circumstances. There is reason to believe there would be good results from such a plan.

Another phase of this subject is the attitude of the hospital's visiting staff, that is, the educational viewpoint as regards the intern. We have considerable evidence on this point. There are some staff members who are most commendably enthusiastic as educators of the intern, while others are decidedly neglectful of this duty, for a duty it is, and nothing less. The attitude of the latter is against the best interests of the hospital, against necessary progress in hospital work and the practice of medicine in general. One of the strongest attractions to interns that the hospital has to offer is the standard of its staff as educators. The medical school requiring the fifth, or intern, year for the diploma would be justified in withdrawing its student where there was apathy as regards the educational. This appears to present a fundamental question for hospital authorities to consider in appointing a doctor to, or retaining one on the staff. The intern of today may be the staff doctor of tomorrow; in any event, he is about to assume the grave responsibility of caring for the sick.—*B. F. McG.*

THE SERVICE OF THE NURSE.

The Hospital Year Book of the Pittsburgh Hospital suggests most interestingly the broad social and personal service which the nurse renders. In a statement entitled "The Graduates—A Forecast" the Year Book says:

"When the young soldiers at West Point and the young sailors at Annapolis, after searching but successful examinations, graduate from their respective schools, the United States Government hands to each one a commission that gives them a certain grade in either branch of service. Active service then begins. They are assigned to certain stations and assume the responsibilities of their profession. They take oath to defend and, if necessary, to die for their country. They put on the uniform of the service and pledge themselves to wear it with honor. During the years of training, the cadets at West Point as well as those at Annapolis live together in close association and under conditions of intimacy while a generous and honorable rivalry animates and stimulates them. In the classroom, life-long friendships began and appreciative estimation of each other's character was formed. The intellectual powers of each were gauged. Capacity and taste were known and measured. Superiors afterwards assign the posts of duty but companions knew what occupations would please and in what position success would be achieved. Capacity accompanied with congenial work is a labor of love. Power in congenial environment leads to assured success.

The same is true of the nurse, but she is neither soldier nor sailor. She is humanity's champion. Her commission on Graduation Day, her diploma, sends her forth to care for soldiers and sailors alike. She goes to serve on land or sea wherever suffering calls. She serves ashore and afloat; the fortress and battleship are alike to her. Behind the guns at Verdun or fortress of Gibralter, on the rolling sea amid the tossing waves, there she is. She is trained to serve on land or sea. Her battlefield is where sickness is found, where contagion threatens, where death is nigh. Brave soul! She has her friendships, too She formed them in her Academy—her training school. She had their friendly rivalry. She and they measured each other's intellectual calibre, knew each other's inclinations and tastes. They could see the surroundings which would most lead to success. From knowledge of character, they could forecast the future. Her knowledge of their characters is, so to speak, the touch-stone by which she knows.

Missouri Conference Meeting. The first annual meeting of the Missouri Conference, Catholic Hospital Association was held September 19 and 20, at St. Louis University. The mass and convention sermon were given in the Chapel of the St. Louis University, Most Rev. J. J. Glennon, Archbishop of St. Louis delivering the sermon.

The convention was opened by Rev. Charles H. Cloud, S. J., Regent of the St. Louis University School of Medicine, and the address of welcome was delivered by Rev. M. J. O'Connor, also of St. Louis University. Addresses were also made by Dr. H. W. Loeb, Dean of the University School of Medicine and by Dr. W. W. Graves, President of the St. Louis Medical Society.

Dr. D. R. Joseph, Vice-Dean of the St. Louis University School of Medicine, talked on "The Hospital as a Teaching Center'; Rev. J. J. Butler, of the Central Bureau of Catholic Charities, St. Louis, read a paper on "Social Service and the Hospital"; Sister M. Gertrude, St. Joseph's Hospital, Booneville, Mo., discussed "Problems of Small Hospitals"; Sister M. Carola, St. Mary's infirmary, St. Louis, Mo., talked on "The Evolution of Dietetics", and Mr. Paul Bakewell, also of St. Louis, discussed "Some Phases of the Law Pertaining to Hospitals."

Mr. Nelson Cunliff, director of the Department of Public Welfare, St. Louis, Mo., read a paper on "Findings of Surveys in City Institutions" at the opening of the second day's sessions. He was followed by Dr. Francis Hemm, St. Louis College of Pharmacy, who talked on "The American Pharmaceutical Association in Relation to Hospital Pharmacy. Sister M. Brendan, St. John's Hospital, St. Louis, discussed "The Training School and the Catholic Hospital," and Sister M. Florina, St. Anthony's Hospital, St. Louis, talked on the subject of "The Hospital Laboratory."

The Sisters took advantage of the opportunity given for visiting the several hospitals of the city.

SECTIONAL CONFERENCES of Catholic Hospital Association of The United States and Canada

The Pennsylvania State Conference of the Catholic Hospital Association

Social Service in a Catholic Hospital

Miss Elizabeth Cosgrove, Mercy Hospital, Pittsburgh, Pa.

There have been many claims to the credit of having originated social service departments in hospitals; some Boston enthusiasts feel that it was in the land of the learned that the work was begun; others claim that New York City was its cradle; most of these claims go back to as recent a date as 1905, with no indication that the work was ever conceived before that date.

Those who have had the good fortune to be associated with a hospital managed by a community of Catholic Sisters must realize that the first hospital social service department in this country was established, contemporaneously with the first Sisters' hospital. From the very nature of the Sisters' lives they are, at once, social workers. There are no records that can ever tell of the multitude of services that these holy women have rendered and are rendering to the less fortunate members of a disturbed society.

They have been instrumental in guiding the destinies of the wayward; they have kept together homes that would otherwise have been broken; they have cleared troubled minds; in short, they have patiently and efficiently restored to normal life those who have come under their care; the healing of the mind, to these Sisters, has been as important as the healing of the body.

Just as in the earlier days of our great industries, those in charge had an opportunity to know the home surroundings of the men in the industry; so the Sisters knew much about the home life of their patients; they, perhaps, even had an opportunity to visit the homes when occasion demanded. And now the great industries have increased; the employer is removed from his employees by secretaries and by the rush of business; but the human interest has not been permitted to die; the firm must still see to it that its employees who meet with misfortune receive personal attention. Consequently, the social worker has entered the industries.

In proportion have the hospitals grown in size and in service. Five hundred patients are frequently treated under one roof, whereas formerly that many patients in a year would have been alarming. The number of Sisters has not increased in the same proportion; hence their duties are more numerous and complex. Except in rare, fortunate instances, the Sisters are unable to learn anything of the home surroundings of the patients. They continue, however, to make many adjustments inside the hospital. In order to render complete service to the patient, the Sisters have been forced to call on lay social workers. The far-sighted superintendents have seen that to do *everything* to restore patients to normal life quickly and effectively is not only the privilege but the *duty* of the hospital. A hospital social service department has been deemed the most satisfactory way of accomplishing these results.

And now we shall assume for the sake of clarity that you want to know exactly what such a department of lay workers should do. As briefly as possible the plan of well established and successful hospital social service departments will be given.

In the first place the social worker uses the social "case" work method. Social work is a profession which concerns itself essentially with the direct attempt to enable every human being to lead a normal life, to develop morally, mentally, and physically so that society may be eventually composed as largely as possible of self-supporting, self-reliant, and moral individuals.

Following the case work method the social worker considers the patient with his family and home as a background and so works out the problems that confront him. Upon this basis the hospital social worker becomes the link between the physician and the patient—supplementing the information that the physician is able to secure in the hospital, with the information that the social worker is able to secure from the patient's home life. A hospital social service department should be a therapy department.

The social worker first secures adequate medical care for the patient and assists in restoring to normal life by attempting to remedy the social maladjustments that cause and prolong illness, such as poverty, bad housing, poor sanitation, insufficient food, improper diet and immoral surroundings. After the medical problem has been solved and there are still social problems existing, the patient is transferred to the care of a social agency, a specialist for his particular need. An attempt is made to assist the physician in making his diagnosis. Treatment is facilitated by removing from the home conditions which are hindrances to recovery. Convalescent care is provided when necessary. The social worker also sees that the physician's advice is carried out, after the patient has returned home, to make sure that there will not be an early recurrence of his illness.

There are a number of less interesting and less involved services. Patients who logically belong to other institutions are moved to give room for curable patients. Then patients with no home or no desirable place to go upon discharge are looked after. When necessary, and if possible, employment is secured; legal advice or an interpreter is obtained upon request. Admissions to the hospital are facilitated.

There is an attempt to ascertain facts in a method as accurate as is used in a science laboratory. In ascertaining these facts, the patient is first interviewed. Next members of his family group are interviewed. In accepting history from members of this group, consideration is taken of the type of family dealt with, and what the main drift of the family life has been. Then an attempt is made to find out through the family what sources may be called upon to assist in adjusting their difficulty. Outside sources of history are interviewed. These sources include a very heterogeneous group: physicians, police, friends, teachers, clergymen, court records, neighbors, marriage records, landlords and employers. After as much history as possible has been obtained about the patient's family life and about his own life, especially when he was at his

[1]Read before the Pennsylvania Conference of the Catholic Hospital Association at Allentown, Pa., April 3rd, 1922.

best, the material is weighed and a *social diagnosis* is made. No action is taken in any case until these facts are ascertained.

The use of the "confidential exchange" is essential. Through this is learned what other agencies know the patient in question.

The social service department should help keep the management of the hospital in touch with the work of public and private health organizations. It should interpret the problems of society which are of vital importance to the hospital in its work. It should show the need and value of the extension of dispensary facilities.

The services which the department should render to the community are many. The educational influences of the hospital are carried into the home. The spread of diseases is checked by seeking those in need of treatment; poverty is reduced through the reduction of illness. Causes underlying physical disabilities are brought to light.

Some who are eager to see a social service department in all hospitals claim that such a department is a money economy. In the large sense it is; however, it will always be an expense that will be borne by those not receiving its service. It is an economy in the sense that it should make the hospital acceptable to the public and to the patients.

The social worker in the hospital must not be expected to be a financial investigator; this is not social work. She should, of course, protect the institution from impostors, but an investigator for this purpose is often secured. Miss Mary Antoinette Cannon states effectively a reasonable stand on this subject: "It may be necessary to undertake for a time certain duties that are not essentially the functions of a hospital social worker, such as the duties of clinical clerk, admitting clerk, financial investigator and messenger, which may be performed for a time with the intention of helping the hospital to fulfill its obligations to the community as well as to the patients. In undertaking these temporary and supplementary duties, it is important not to lose sight of the fact that the primary function of hospital social workers is social case work and the best contribution of hospital social work both to the hospital and to its community is to perform this function."[2]

The selection of the first social worker in the hospital is likely to determine the success of the department. She must be a person of force and intelligence. She must have a thorough education of both mind and heart with a complete conviction that there is more good than bad in the world. Primarily, she must know social work; she must know, of course, the fundamental principles of hygiene, the ordinary manifestations of some illnesses, and the social aspects of the great anti-social diseases. Whether or not she has obtained this knowledge through a nurse's training course is of no importance.

With the responsibility of the career of sometimes a whole family on her hands, it is evident that the more complete knowledge of human nature, of conditions of life and of the ultimate end of man she has, the more successful will be her work. The Catholic Church and its Sisterhoods, with high ideals of service, will not neglect its sacred obligations by committing its needy to the care of uneducated and untrained workers, who are not capable of fulfilling their purpose no matter how well meaning they may be. Dr. Kerby states that: "The spirit of charity develops furthermore the passion for efficiency. That is to say, they who are to serve the poor, wish to serve them adequately, wish to serve them wisely and in every direction to which their needs point. They will seek the most effective methods. They will endeavor to make their resources serve to the utmost. They will endeavor to leave no want unsatisfied and to neglect no opportunity to bring hope, power, independence and complete reconstruction to those in need. The spirit of supernatural charity cannot be expressed worthily through methods that show bad judgment. It cannot be expressed in methods that lack thoroughness and that fail of any of the graces of perseverance which are the offspring of abiding conviction."[3]

Having selected with discretion the first social worker, there is no reason to assume that one's duties are accomplished. A hospital of five hundred beds operating a dispensary cannot serve its patients adequately with one or with two social workers. In order to accomplish *end* results with all patients that come into your hospitals, it is necessary to have at least five full-time social workers. Financial circumstances of the hospital do not always permit obtaining all these workers at once. But there are ways and means of obtaining funds when there is determination.

In your community there is a group of women who are interested in your hospital. They have leisure, and means, and ability to such a degree that they can raise funds to help finance a social service department. Since this should be primarily a therapy department, it should be maintained *whenever possible* by the management. Where this is impossible from the financial standpoint, it is advisable to establish a women's auxiliary board. If you will forgive the introduction of personal experience, it is worth while to tell of the recent organization of the women's auxiliary board in Mercy Hospital, Pittsburgh.

With the cessation of State aid, and with the pressing necessity to secure more assistance in the social service department, such an organization became inevitable. Letters were sent to the wives of the members of the staff and of the trustees and to women in the community who were known to be interested in the hospital. The first meeting was attended by a small group of women who were most interested and who were willing to undertake the responsibility of enlarging the group, and of proceeding at once to secure funds. After two meetings, the board was formally organized; it is composed now of nearly one hundred women who are raising funds by levying membership dues annually upon themselves. There are three groups of membership: $12, $25 and $100. Already sufficient money has been obtained to pay the salary of an additional worker, as well as the incidental expenses of the social service department. There have been sub-committees formed so that each member of the large group will serve on one of the smaller committees. These committees include the following: Executive, Financial, Social Service, Children's, Transportation and Visiting; each committee having distinct and interesting duties. By having meetings at the hospital at frequent intervals, the women increase their interest in the hospital and are able to bring to the general public some idea of the educational work and value as well as the therapeutic value of the hospital. They are also put in a position to make valuable suggestions for improvements in the hospital itself as well as to give actual assistance in making these improvements.

Unfortunately there is no information available as to the number of Sisters' Hospitals that have Social Service Departments, that is, departments whose entire energies are devoted to the systematic and continuous care of patients outside the hospital. It is fact, however, that Sisters' Hospitals have been very slow in adopting well-tried methods in these departments of their great institutions; they have not been time-binding.

"What Constitutes Good Service to the Patient" is a subject forever on your mind. There is no escaping it. If you have forever decided that social service to all classes of patients does not enter here, then the time spent has been in vain. If you have decided that the work of your institutions is being made a temporary thing because your patients are permitted to return to the same unhealthy and, often, immoral surroundings which sent them to your hospital—if you have decided this with conviction then you will proceed at once to establish a methodical department which will help carry on the beautiful work God has chosen you to do.

[2]Modern Hospital, 1922, XVIII, page 57, Mary Antoinette Cannon.

[3]Rev. Wm. J. Kerby in "Passions of Charity", Catholic Charities Review, March, 1920.

The Care and Treatment of the Psychopathic Patient*

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The nursing of the mentally ill invites all the knowledge that the science of nursing provides, and something more, namely: an intelligent recognition of the physical basis of many mental diseases and an understanding of the grave responsibility which the care of these patients entails. In a general way, they do not essentially differ from others who are ill; it is to be hoped that our professional friends, as well as the public, may eventually appreciate the value of early recognition and early treatment.

The word "insane" might well be eliminated from our vocabulary. It has no medical definition, being merely a legal term, and is resented by patients and friends. "Psychopathic" is a more definitive expression, the use of which creates a more hopeful atmosphere, and enables us to encourage others on behalf of the patient. And, indeed, it is very important that those engaged in the care of psychopathic patients maintain an open mind regarding the possibilities to be achieved as a result of their effort. Failure to accomplish results is sometimes due to depression in the activities of physicians and nurses, for it is true here, more than in other lines of work, that "patience is a virtue."

In addition to patience, the nurse in psychopathic work must possess keen perception, good judgment, kindness, and tact. She should early perceive the change from excitement to depression with the attendant danger of suicide. She must know when to coax or urge and when to be firm and unyielding; when to discuss things and when to maintain silence. She must appreciate the nature of the delusions of different individuals, and realize that their morbid state of mind is responsible for these abnormal interpretations. There must be judgment to meet sudden emergencies and promptness to decide; sincerity in word and act, to win the patient's confidence; the exercise of kindly sympathy and tact, that may wisely guide and control without antagonizing the mind burdened with varied and horrible suspicions. The exercise of these dispositions cannot fail to have a definite influence on the development of the nurse, and she will be a broader-minded woman for the experience.

Many of our patients are brought to the hospital on some pretext or other. This may be necessary to get the patient in but the result is that we are viewed with suspicion, and very frequently it requires considerable time to eradicate the erroneous ideas which the patient forms on admission.

In the treatment of these patients, it is best to be honest with them. It may be necessary sometimes to defer answering them, but they usually resent direct falsehoods. The most satisfactory way is to give them the benefit of such judgment as they have, and whenever possible, have them cooperate. This is not always practicable, but we must ever bear in mind that the patient's attitude is not necessarily one of stubbornness, but is the logical result of his morbid deductions growing out of the delusions and obsessions which govern his actions.

There is no routine plan of management in a psychopathic ward. Each patient is a law unto himself and must be handled in an individualized manner. However, there are some general rules which apply to all cases, viz: constant watchfulness, lest the patient do himself or others harm—persistent care of the organs of elimination—care of the mouth and finger nails—not to mention the ever-essential bath. The importance of diet and nutrition must not be overlooked. In the vast majority, these points need the same emphasis that one would exercise in dealing with children, and it is very frequently the proper adjustment of these that promotes the first step toward recovery.

An amazingly large percentage of psychopathic patients belong to the toxic group, either drug or disease. The care of these is the same as that of all acutely ill patients. An accurate diagnosis must first be established by careful history, physical examination, and laboratory data. Foci of infection must be looked for and eliminated if possible. Such patients must be kept in bed, isolated as much as possible, and the visiting of relatives curtailed. In cardio-renal cases with oedema, the electric hot pack is used for twenty minutes, if depression is not too great. Otherwise all of the toxic group are treated by neutral packs for one hour, twice daily. If temperature is elevated above 104, cold sponge is given, sometimes cool colonic flushing. Fluids are forced by tube feeding, if not taken voluntarily. Bladder is emptied by catheter, if patient does not void, and bowels kept open by cathartic and enemata. Occasionally, these patients are given a prolonged bath for one or two hours. As they are usually quite ill, and frequently very much agitated, the transference from ward to hydriatic room is not always advisable. Diet in these cases is very important, and is usually guided by the laboratory reports. If the exciting cause is not a dietetic one, then a liberal carbo-hydrate regime is indicated, as these patients are usually much depleted and need generous and nutritious diet. Drugs are withheld as much as possible as they only constitute another factor in the toxemia we are endeavoring to combat.

Diversion and occupation are positively contra-indicated in these cases until convalescence is well established, and a too early removal to familiar surroundings, especially when the patient is just getting hold of himself, is a disastrous move.

In the manic depressive psychosis, the great element to be overcome is exhaustion. In the active maniacal stage, the patient thrashes about, is alert and noisy. These patients tax the ingenuity and fortitude of nurses almost beyond the power of endurance. They are combative and pugilistic, destructive, profane—refuse to eat, elude sleep, regardless of narcotics, and show a marked tendency to exhaust themselves. They may then sink into a depressive state which may progress to stupor and death. The cool wet pack is the best method of handling these patients in the acute delirium. It is maintained for two hours, if no untoward symptoms develop. The patient is then thoroughly dried by friction to stimulate the skin, and is placed in a dry sheet pack in which he is kept about four or five hours, or until the next wet pack. This serves two purposes: it keeps the patient from exhausting himself, and it keeps him covered, thereby reducing somewhat the danger of pneumonia from exposure.

In these cases drugs must be resorted to, to prevent too rapid exhaustion through loss of sleep. Drugs by mouth are very difficult to administer, but when taken, luminol three times a day in two grain doses and gradually reducing, is quite satisfactory. Morphine and Hyocine, in ordinary doses of 1/6 and 1/150, or paraldehyde in olive oil by rectum, are usually effective.

Diet must be substantial; liquid at first and increasing if the patient will eat. Elimination is important. When the acute stage is subsiding, the packs may be discontinued in favor of the prolonged bath. If a depressive stage ensues and persists, electric cabinet, followed by vigorous salt rub or needle spray, with spinal douche, will usually promote energy and stimulate the patient to a more normal frame of mind. Occupational therapy carefully regulated is very beneficial.

*Read before the Pennsylvania Conference of the Catholic Hospital Association at Allentown, Pa., April 4, 1922.

Dementia praecox, as a rule, gives us less opportunity for nursing measures, and the chief endeavor here is to prevent deterioration. However, these cases are varied in their intensity, from the mild capriciousness and indifferentism of the simple type to the maniacal and homicidal tendencies of the catatonic, and the marked dementia sometimes seen in the hebephrenic; so there is variety in the efforts expended to counteract deterioration.

. It is very imperative that pernicious habits be prevented, or corrected, if already established.

Occupation is of great importance in these cases. In the early stage of lost ambition and interest, patients are encouraged by finding themselves able to learn new things, and are taught to concentrate their attention for a given time, thus correcting the restlessness and instability so frequently seen. It is further of advantage where "voices" are the predominating complaint; new duties and new surroundings in the classroom give the mind new thoughts, and thus the voices are sometimes obliterated or at least submerged. Even where marked dementia develops, these patients can be taught to work, and while they do it mechanically, yet their energies are directed in a more useful channel, and they are contented in their surroundings. Games, recreation, and diversion of many kinds are helpful, and as a result, many of this class are re-educated and recover sufficiently to get along outside an institution.

In general paresis, the prognosis is very discouraging. Early symptoms of grandiosity and immense wealth make it necessary that they may be hospitalized, and where indicated, anti-luetic treatment instituted. Some cases show a definite maniacal trend, though usually without the exhaustive phase of the manic depressive.

With the remission, which may occur after four to eight weeks, occupation and outdoor pastimes may be utilized, and many of these patients are able to return home for a period varying from one to three months and sometimes a year. The end result of general paresis is marked by progressive dementia, lack of attention to personal wants, emaciation, and the development of pressure sores, if the patient is in bed.

They sometimes show remarkable endurance and will successfully overcome infections of various kinds; such as erysipelas and furunculosis.

They require the constant attention one would give a child, and are best kept in a low bed to prevent injury from falls. As their gait is very unsteady, they must be watched when up and about.

As a terminal to this disease, they usually develop a hypostatic pneumonia, though death is sometimes quite sudden as a result of convulsions or cerebral oedema.

Melancholia vera, or depression occurring at the involutionary age, is generally marked by great physical prostration. These patients are, we think, the most difficult to nurse. They may be perfectly oriented in all spheres, with the single thought of their own unworthiness and uselessness, or they may have definite delusions of having committted some terrible sin; and consequently are plunged into the deepest depression. As a natural sequence they refuse to eat, are sleepless, show loss of interest, and a tendency to seclude themslves; their ideas are all turned inward on their morbid thoughts, and they are decidedly prone to suicide as the only release from their misery.

It is usually advisable, at the onset of their hospital care, to give them complete rest in bed and forced diet. Tube feeding is very often necessary, but where the patient will take it, nourishing food given frequently, liquid or semi-solid, and made as appetizing as possible, will be advantageous in helping to increase body weight, thus establishing a basis on which to work. Give whatever the patient likes, provided he receives sufficient to supply the wear and tear occasioned by his depression.

Continuous baths are productive of very good results, as they quiet the cutaneous nerves and soothe the patient to sleep. Massage and alcohol rubs are also indicated to counteract the tendency of the musculature to become flabby.

The bowels must be watched for fecal impaction, even though they move daily. This is due to depression of the sympathetic system and to lack of attention on the part of the patient.

The important thing in nursing the depressed patient is to develop new thoughts, hoping thus gradually to obliterate the morbid obsessions which are the chief factors in his illness. It is useless to argue with him but by suggesting some cheerful ideas and occupation, having him comply without his knowing it, and using the greatest kindness of manner, much may be accomplished.

These patients are very sensitive, and it is well known that they will long remember any harsh or unkind word or act on the part of the nurse. It may even deepen the depression and be the assignable cause of his self-destruction.

"Patience, patience, and then more patience," might well be the motto of the nurse with this type of patient; and she may generously be pardoned a reasonable pride if she be successful in practically dragging her patient from the depths of despair to a normal and healthy frame of mind.

The senile psychosis, strictly speaking, should not come under the care of the psychopathic hospital but because one is old is no reason why he may not recover, even his mental faculties. Where the psychosis is due to alterations resulting from old age, as arteriosclerosis, then the progress is downward; and these patients are handled almost as children. They may be usefully employed, however, if not too feeble, and should be kept active as long as possible. We occasionally see a senile patient admitted who is suffering from some toxemia; one, aged 65, with furunculosis of the ear and impending mastoid; another, aged 70, with a cardio-renal condition, and another, aged 85, following a trauma. All of these cleared up mentally after elimination of the etiological factors, plus the routine nursing measures necessarily attendant upon each case.

The psychopathic nurse should be imbued with the spirit of her work. Much of her success will depend upon the manner in which she accepts the patient, and the efforts she puts forth to understand his particular mental disorder. It is necessary that she intelligently appreciate that actions are based upon the interpretations which the patient makes in his deranged mental state, and the utmost tact must be exercised in overcoming them. Confidence in the nurse is frequently a prime factor in securing cooperation, and then, step by step, the patient is directed to normal paths.

In many instances discipline must be exacted and maintained. Dr. C. Macfie Campbell of Boston says that the lack of guidance in childhood and early adult life, is one of the causes of the variety of mental disorders in the adult, some of which are sufficiently pronounced to be called insanity. That this is true is evidenced by the predominance of dementia praecox, and the very definite lack of control which the parents in many cases are able to exercise.

The nurse has to combat these early influences, and re-educate the patient to the practice of self-control. She should set the example herself, and be most exact in keeping her word and in showing a firmness in handling the patient, which the latter will soon learn to respect.

While a large percentage of psychiatric cases are chronic, yet many of them make a social recovery or improve sufficiently to go home. The time to go home is very often anticipated by over anxious relatives, but so important a matter should always be left to the prudent judgment of a competent psychiatrist.

This branch of nursing is not the hopeless task that many nurses, and even doctors, imagine it to be; on the contrary, it is most satisfactory to have been instrumental in restoring one to his own environment with the normal functioning of his mental faculties. The depressing effects of caring for these patients, which is another point frequently raised, is rather over-estimated. Without making the patient a victim of raillery, one can find sufficient

interesting and amusing episodes to balance the depressing features. Many of the patients are witty and clever in making the best of a situation, and their comments are sometimes worthy of a comedian.

We are interested in a more general appreciation on the part of nurses, of the field of psychiatric nursing; and we feel that training in the care of these cases is exceedingly beneficial to the nurse in private practice, for she may, at any time, find her patient with a mental condition complicating some other ailment.

The ability to meet emergencies is thoroughly inculcated in this work, and the elimination of fear of the psychopathic patient is the first step towards the judicious handling of the case.

Gregor J. Mendel

In Commemoration of the First Centenary of the Great Scientist's Birth

Dr. Edward L. Miloslavich, Professor of Pathology at Marquette University in Milwaukee Wisconsin

On July 22 of this year practically every scientific organization in the world celebrated the one hundredth anniversary of the birth of the Augustinian Monk, *Gregor Johann Mendel,* the founder of the modern doctrine of inheritance.

We, too, wish to add a word in regard to the scientific significance of the work of this Catholic Priest and wish to emphasize the importance of his fundamental researches in the inheritance of certain constitutional diseases and pathological conditions.

In the fifties of the last century we find Father *Mendel* in his Convent-garden at Bruenn (Austria) shut off from the world at large, in order to offer up his life and work to truth and God, watching over the most minute changes in the growth of his flowers—seemingly a negligible effort, but one which furnishes the very groundwork of a new science!

The question of Hybrids and their offspring was settled by *Mendel* through his multitudinous experiments on plants and his mathematical interpretations which laid a firm foundation for all present work in this field, so that we now speak of a very definite Mendelian law of inheritance. The fundamental work in this field was all done on hybrid forms of peas.

Mendel has shown us how the characteristics of the parents pass to the offspring in an exact mathematical decipherable ratio in either a "dominant" or "recessive" manner, and how these characteristics follow definite biological laws in their being carried forward from generation to generation.

A very weighty point was the ascertaining of whether parental characteristics gradually dissolved themselves or whether they were passed on side by side to the offspring who in turn could again pass them on to their offspring. *Mendel* demonstrated conclusively that no dissolving takes place but that the single "unit characteristics" which are inherited, are retained as "unit characteristics" and as such are again passed on to other generations.

His researches do not only concern us in the discussion of breeding experiments but have a very definite bearing on the very fundamental subject of the question of inheritance of known constitutional diseases or pathological conditions such as diabetes, haemophilia, epilepsy, polyuria, etc.

Mendel's first work ("Versuche ueber Pflanzenhybriden"), after years of patient and precise observation, was published in 1865. This important work remained almost totally unknown for some thirty-five years. It was in 1900, sixteen years after *Mendel's* death, that three valuable papers appeared by Hugo De Vries, C. Correns and E. Tschermak, respectively, papers which brought *Mendel's* work from obscurity to one of the foremost positions in the world of science.

REV. GREGOR JOHANN MENDEL.

During the immediate years which followed this discovery of his work, a vast array of literature has come forth under such headings as Mendelian Researches and Mendel's Laws. In fact, it was the beginning of a new science, which has been named "Mendelism" by English-speaking scientists.

Our knowledge of the laws of inheritance received their firm basis and support from the work that *Mendel* did. It is only upon his foundation that modern science can build.

Gregor J. Mendel was born on the 22nd day of July, 1822. He was the son of pious Catholic parents in Heinzendorf, in Austrian Silesia. In 1843 he became a novice in the Augustinian House of St. Thomas, at Bruenn, and four years later was ordained priest. He immediately became interested in natural history studies and entered the University of Vienna for further development along this line. Returning to his Convent at Bruenn after his University work, he taught natural history in the high school in that place. In 1868 he was elected Abbot of his monastery. The administrative labors connected with his new position were unfortunate for science in that they prevented him from continuing his natural history studies.

In 1884 *Mendel* was called from his earthly labors and was thus prevented from seeing his name and work assume the position of triumph which has since been accorded him.

In quietude, following the symbol of the Cloister, let us celebrate the hundredth birthday of this Catholic priest and scientist. His name is inscribed in the annals of the immortals.

NOTE—In order to celebrate and to dignify the scientific work of Father Mendel, we intend to establish a scholarship in Marquette University under the name "Mendel Scholarship for Natural Sciences and Medicine". We ask, therefore, every Catholic institution and person to help us in establishing this pious commemoration. The contributions may be sent to the President, Rev. A. C. Fox, S. J., Marquette University, Milwaukee, Wisconsin.

Intra-Ocular Manifestations in the Various Brain Conditions Associated with Brain Pressure and the Modus Operandi by which these Manifestations Are Brought About*

James A. Bach, M. D., Milwaukee, Wisconsin

Our chairman has requested that the section of eye, ear, nose and throat present some interesting and appropriate subjects for discussion by the staff tonight. In order that this paper may be of general interest to all staff members, it must have a common denominator, as it were; and as head of the department I have selected the given title for the paper and discussion to follow. I am sure that this subject is of timely interest, not only to the ophthalmologist, but also to the internist, the neurologist and, especially, must it be of great interest to the surgeon, who is much concerned in the question. The early and prompt recognition of intracranial pressure in its various forms is of paramount importance, and any assistance that can be given to facilitate its recognition must be of value.

As an oculist, I feel that I am expected to present this subject-matter from the "eye-man's" standpoint, and, while the question involves every domain of medicine, I shall try to demonstrate the modus operandi in the production of disc disturbances in brain pressure, supporting this demonstration by a parallel condition that is found in cases of glaucoma of the eye. To do this satisfactorily, we must get at the essence as to what constitutes the cause or causes which lead on to brain pressure.

Apparently this whole subject-matter has heretofore presented many confusing or contradictory explanations. For instance: Why do some tumors of the brain seemingly produce brain pressure and others not? If brain pressure be present, why is this sometimes conveyed to distant parts and at other times not? Why do the peripheral evidences of brain pressure, such as chocked disc and the pressure found in the spinal canal, gradually disappear, while brain pressure may even become greater? These and other peculiar contradictions can find a very clear and satisfactory explanation, which I propose to present in the course of my remarks.

In order to visualize and more effectively demonstrate this whole question I would like to present to your attention the various mechanical facts underlying the production and progress of a condition known as *Glaucoma* of the eye, which appears to me to represent an exact counterpart, and are in every way similar to those we encounter in the brain under conditions of brain pressure.

The aqueous humor of the eye, on the one hand, and the cerebro-spinal fluid of the brain on the other, have a common function, each in its respective field. In the eye, the aqueous humor is constantly but very slowly secreted from the anterior ciliary processes, and after performing its functions of protection and nutrition is again returned into the general circulation by way of the anterior angle of filtration (ligamentum pectinatum), the canal of Schlemm and the various other venous connections located at this point. In the meantime, fresh aqueous humor is secreted in order to maintain a proper physiological condition and tension of the eyeball. The aqueous humor of the eye is a very bland non-irritating fluid, amounting practically to normal saline solution, and in its passage from its secretory organs through the eye and out into the general circulation, after its absorption at the filtration angle, does not excite or find difficulty in its normal passage, so that the eye never becomes overfilled. If, however, for any reason the aqueous humor should contain irritating substances, toxins or poisons of any irritating nature, its return absorption could or would not take place, especially where anatomic relations become abnormal, and the back-pressure thus produced by overfilling of the eyeball would greatly stimulate the production of aqueous formation, with the result that the eye pressure would soon become much greater than normal, and the vicious circle thus produced, namely, the process of greater secretion and lesser elimination, would soon result in the most terrific ocular tension, great ocular pain and all the other evidence of glaucoma of the eye. If the obstruction of the aqueous to its return flow is sufficiently continued, a rupture of the eyeball becomes inevitable, unless nature finds other means of a decompression. In childhood there is often found a condition of infantile glaucoma, being induced by an excess of aqueous secretion, and, owing to an anatomic defect at the ligamentum pectinatum, the filtration angle is unable to carry off the fluid with sufficient rapidity; the tension of the eye becomes greater and greater, which would go on to actual rupture, if it were not for the fact that the sclerotic coat, being yielding in childhood, will dilate and allow the eye to assume greatly increased dimensions, and thus we get the buphthalmos, or ox-eye, which becomes at least three to four times as large as the normal eye. After the dilatation has gone on far enough, the thinning of the outer coats of the eye will allow liquid to transfuse and we have here a typical decompression of the eyeball, by enlargement, being typical of the hydrocephalic head in its formation, progress and culmination, as I shall show. In the adult, if the factors for the production of glaucoma supervene, the tension also rises until a natural decompression takes place, and this is practically always at the lamina cribrosa, at a point where the optic nerve enters the eyeball, which also represents the point of least resistance of the eyeball, and the lamina cribrosa, together with the optic nerve, is literally crushed and pushed outward sufficiently to give a decompressing vent for the pent-up fluid in the eyeball. It will have been observed that the pressures spoken of are hydrostatic in nature, and every area of equal dimensions in the eye are subjected to identically the same amount of pressure. In cases where tumors develop in the interior of the eyeball, we do not get intra-ocular tension unless those tumors interfere with the proper circulation of the aqueous fluids in the eyeball. A tumor will displace and cause to be absorbed the vitreous humor sooner than invite intraocular tension, or even penetrate the walls of the eye by gradual absorption, yet with but very little tension in the eye. This fact must be borne in mind, as we shall find the same facts to obtain in brain pressure. Brain pressure, like eye pressure, is hydrostatic in nature and is very rarely, if ever, produced by a tumor per se, but, as pointed out in glaucoma, is due to a lack of elimination of the cerebro-spinal fluid, either by obstruction, by non-absorption, by exces-

*Read at Staff Meeting, St. Mary's Hospital, Milwaukee, Wis.

sive secretion, or by the added secretion of serous fluids as are found in meningitis or after severe brain injuries and hemorrhage. In health, the cerebro-spinal fluid is constantly but slowly secreted from the choroid plexus and the venous plexuses found in all the ventricles, and passes on until it reaches the subarachnoidal spaces, where, after performing its functions of protection and nutrition, it is again returned to the general circulation, being absorbed into the various venous channels lying within the subarachnoid spaces, while fresh cerebro-spinal fluid is secreted. These fluids, like those in the eye, act as a governor in relation to the tension and in health maintain a normal physiological pressure. The lateral ventricles secrete their quota of fluid, which passes into the foramen of Monroe on either side, then forward to the foramen communis anterior through which the fluid passes into the third ventricle. Some fluid is added by the third ventricle, and then all of the fluid passes through the Aqueduct of Sylvius into the fourth ventricle. Here some more fluid is added, when all the accumulated fluid passes through the foramen of Magendie and Lushka, which establishes an opening through the piamateral walls and opens a gateway into the subarachnoidal spaces, where the chief functions of the fluids are found. It will be recognized at once that the above process is identical with the process of fluid circulation in the eye. As long as the various foramina remain patent, and as long as absorption in the subarachnoid spaces is normal, together with a normal secretion in the ventricles, brain pressure does not occur, even though there be a brain tumor present. There may, however, be brain pressure present from what is known as external hydrocephalous due to meningitis or great irritation of the meninges from toxins and the like. Such tension, however, unless very severe, is only of temporary importance. But let some obstruction occur in the various foramina spoken of, by pressure of whatsoever nature or by direct growth, then brain pressure will supervene and become manifest throughout the subarachnoid spaces and ventricles, which will all be under the identical amount of pressure, area for area. The obstruction to the free circulation of the cerebro-spinal fluids will become a tremendous stimulant to the greater production of more cerebro-spinal fluid, so that the same vicious circle is here established as we found in the eye under similar conditions. The more pressure, the more fluid—the more fluid the more pressure. It will be observed that there may be at least two kinds of brain pressure, each manifesting similar peripheral effects: the internal hydrocephalic brain pressure and the external hydrocephalic brain pressure. These two may exist independently of each other or they may, which I believe is more usual, act jointly, at least in the more developed stages of brain pressure, since they may initiate the vicious circle spoken of, after which all the causes for pressure become greater and all the reliefs of pressure become less.

Brain pressure under circumstances of a general obstructive hydrocephalous becomes incredibly great, and no wonder that in early life, like the buphthalmos of glaucoma, the skull expands and keeps on expanding until there is produced the enormous head of the hydrocephalic youth, and until a point of drainage is reached.

In the adult, in spite of enormous pressure, the skull does not expand, but the brain tissue is literally crushed. Dr. Miloslavich, head of the department of pathology at Marquette University, assures me that he has observed cases where brain substance was pushed through the dura and at many points causing absorption and deep indentations of the inner table of the skull. Such pressure must amount to many pounds to the square inch and will shortly lead to disintegration of the brain and death, unless relief can be found.

This pressure, like that of the glaucomatous eye, being hydrostatic in character, finds its way to every contained surface or space. It is for this reason that the intraocular manifestations of brain pressure are very distinctive and give us the first and most valuable information as observed by the ophthalmoscope.

As a general rule, the most direct and immediate indications we have to determine intracranial pressure is the evidence which comes to us through the intravaginal spaces of the optic nerve.

Embryologically the eyes are but protrusions forward from the brain; the optic nerve remaining enveloped by the same coverings that cover the brain itself; hence, the intravaginal spaces of the optic nerve, up to the eyeball, are a direct continuation of the intracranial spaces, therefore, any increase of intracranial contents, especially of a fluid or semi-fluid form, will make itself manifest in the vaginal spaces of the optic nerve by a similar increase of pressure. It is this pressure, which shortly produces evidences that can readily be seen in the fundus of the eyes, at and surrounding the optic papillae, or lamina cribrosa, which is pressed forward.

The optic disk, as we see it in health, appears slightly pink or reddish, with margins clearly and sharply defined and lying on the same plane with the general fundus of the eye. The central artery of the retina emerges near the center of the disk and subdivides into superior and inferior branches, while the veins of the retina, slightly larger in size, enter the nerve head also near the center of the disk, which latter represents the entrance of the optic nerve into the eyeball at the lamina cribrosa. Both artery and vein pass along the center of the optic nerve for about one-half inch, more or less, then leave the nerve, passing through the intravaginal spaces of the optic nerve, to join their main stem, or the ophthalmic artery and vein, respectively. While still within the vaginal spaces of the optic nerve, the various pressures that may obtain in the brain, and hence also in the vaginal spaces, will have a decided effect on the circulation of the disk and the retina as well, and therefore we get not only the evidence on the disk of pressure, such as tortuosity and enlargement of the veins, edema and exudate, but the vessels concerned and subject to the pressure will also clearly show the grade of obstruction due to pressure, unless other obstructive causes are present to prevent the pressure from exerting itself.

Much experimental work has more recently been done in connection with this subject to prove or to disprove that intracranial pressure was directly responsible for the pressure manifested in the occlusion of fundal circulation. There are various striking abnormalities found at times in the disk resembling choked disk, but these are all of an inflammatory nature and due to toxic conditions, such as albuminuric retinitis, neuritis or papillitis. The disk of pressure is not inflamed, but becomes edematous to various degrees, dependent upon the length of time the pressure lasts. When the pressure subsides, the edema also leaves.

Dr. Sharp, of the New York Neurological Surgical Clinic, recently made the following experiment. Through an occipital opening in the skull in a series of six dogs, he closed the Aqueduct of Sylvius by means of a capsule filled with cotton. At the end of six hours, three of the dogs showed a beginning edema of the optic disk, which gradually increased, while three dogs developed this edema only after eight hours; but all of the dogs developed a very characteristic papilledema of the disk, and in all of the dogs this increased up to what is known as choked disk, meaning a crowding forward of the lamina cribrosa and an edema resulting from the interference of circulation, with a considerable elevation of the surface of the disks above the plane of the fundus. The veins of the fundus became much increased in size, showed great tortuosity due to overfilling and stasis, and became very dark, while the arteries of the retina became irregularly blurred, and gradually exudate interfered much with their clear visibility in parts. A decompression done on some of these dogs gradually restored the fundal circulation to more normal conditions.

It was shown that an internal hydrocephalous and, in a lesser degree, an external hydrocephalous, invariably and almost immediately produced the eye symptoms so characteristic in various forms of brain defects, which we will review briefly.

It is clearly proven that the mechanical effect of brain pressure through and by virtue of its excessive fluids, is directly responsible for these edemas and papilledemas of the disk and fundus, and, as stated before, the terms papillitis, retinitis and the various "itis," cannot enter into this matter, as they all have special manifestations and are, as a rule, toxic in origin. The mechanical pressure which alone produces a true choked disk is hydrostatic in character and is brought to bear on the lymphatic circulation as well as the blood circulation in the vaginal spaces, and, in order that a choked disk occur, it must always be preceded by a series of blurrings of the details of the disc, as well as by dilatation of the veins, with a degree of tortuosity. If it be possible that intracranial pressure alone can cause inflammation, then the term "papillitis" may apply; but, if such be the case, it is practically a toxic condition, and inflammatory exudates will manifest themselves freely. To distinguish this from true choked disk, a cell count of the spinal fluid may be made and the matter cleared up.

The most important conditions that will initiate intracranial pressure, and which especially interest us are brain tumors, brain abscesses, hydrocephalous produced by exceptional causes, selected cases of spastic paralysis due to intracranial hemorrhage at birth, and, lastly, intracranial hemorrhage and cerebral edema following brain injuries, and toxic conditions in which the cerebro-spinal fluids are not absorbed promptly, under which heading would also come forms of meningitis and the so-called Wet Brain.

Brain tumor.—In this condition, papilledema may be a gradual development, culminating in the later stages in choked disk by the gradual interference of proper circulation or absorption of intracranial fluids. Choked disk in brain tumors is practically always followed by a secondary atrophy of the optic nerve, and total blindness results. Therefore, if symptoms of intracranial pressure appear, such as headaches, slow pulse, and the like, the ophthalmoscope should be freely used at short intervals to watch for signs of blurring of the disk and enlarged veins. The nasal and upper edges of the disk are the first to show decided blurring in advancing pressure, and our watchful eye should especially observe the upper and inner margins of the disk, besides the changes in the circulation of the fundus. Certain frontal lobe tumors may, by direct pressure upon the nerve, cause primary atrophy of the optic nerve, without brain pressure. While it may not be possible to be sure of brain tumor at all times, yet if the general symptomatology is in line, brain pressure is certain and provision should be made so that relief can be given. We cannot afford to await choked disk, for if we do we may have greater certitude but we will also have a blind patient on hand. Small pontine angle tumors may not show papilledema at all, or but very late, for obvious reasons. Subtentorial tumors practically always cause a very definite internal hydrocephalous by blocking the free circulation between the various ventricles, while small and slowly growing tumors in the central or more hidden portions of the cerebrum may not show this tendency to cause hydrocephalous, hence, are not liable to cause papilledema to any great degree.

Brain abscesses and the substitution of cerebral tissue, and purulent detritus, like glioma, which infiltrates, does not cause brain pressure, unless, by infection, the ventricles become blocked, or a serious meningitis may develop inviting much liquid and practically an external hydrocephalous. Ventricular blocking is very frequent in subtentorial and cerebellar abscesses, but it is rare for a spheno-temporal abscess to cause fundal changes, even though the abscess be large.

Hydrocephalous.—Internal type, due to blocking of the cerebro-spinal fluids in the ventricles, causing ventricular dilatation and great intracranial pressure. Also, the external type of hydrocephalous, causing partial blockage of fluid from the general cerebro-spinal canal. In babies, where hydrocephalous develops from various causes, nature points the way to decompression, but reverses the process by allowing the head to expand rather than allow the fluid to leak out.

Cerebral spastic paralysis — due to intracranial hemorrhage at birth (about 75 per cent of these cases of spastic paralysis are due to this cause, as reported by surgeons). The cerebral pressure induced in these cases is great and always produces fundal changes. The chief causes of this paralysis are (1) lack of development of cortex, (2) meningitis or meningo-encephalitis, and (3) hemorrhage.

Intracranial hemorrhage with severe injuries and cerebral edema in very acute or recent cases rarely give a real choked disk, because the time for adaptation to this sudden and increased pressure is too limited; death overtaking these cases before a choked disk will have time to develop. In rupture of the meningeal artery and a large hemorrhage choked disk has full time to develop and does develop, unless the pressure is relieved by suitable means, when the disk will soon return to normal or near normal.

Choked disk or papilledema of the eyes is a condition that comes on gradually, and experiments show that it does not take place short of about three hours, and therefore, repeated examinations of the fundus must be made at short intervals to discover the gradual development of papilledema.

Various forms of meningitis and forms of apoplexy may, and often do, give rise to edema of the disk, showing that brain pressure is present. Not the least benefit that we can gain from the examination of the fundus of the eyes is the negative fundus, which assures us that brain pressure is not present to any degree, unless plastic exudates have closed off the free inter-communication of the subarachnoid spaces with the vaginal spaces of the optic nerve.

Brain pressure, if continued for some time, shows a tendency to invite exudates to form at the various intercommunicating points and shortly a fibrosis may be produced which effectively locks off distant communicating relations. It is thus that a spinal puncture in the early part of advancing brain pressure may indicate much pressure, while at a later date this pressure, which is still present in the cerebral cavity, cannot be elicited by spinal puncture, the subarachnoid connections having been closed through a fibrosis. This same is true concerning the subarachnoid spaces in the vaginal sheets of the optic nerve, so that a choked disk may gradually disappear while the brain pressure remains constant or even becomes greater. Unless one is on guard, mistakes may be made. There is no question that the proper relief for all these conditions is a properly selected decompression, and, if necessary, the ventricles may be drained by some form of seton, for a time at least. Many cases of cerebral pressure, when uncomplicated with permanent obstructions to absorption and circulations, can be effectively cured by a proper decompression, and the internal circulation of the cerebro-spinal fluid may be restored to normal. If possible, manometric tests of cerebro-spinal fluid should be taken from time to time, and the actual pressure noted.

The various forms and methods of decompression that are now practiced ought to depend largely upon the character of the obstruction causing the brain pressure. For all subtentorial obstructions, where the cisterna at the base is overfilled with cerebro-spinal fluid, the most direct and successful decompression is through the subarachnoidal spaces in the spinal canal, through which, by repeated spinal punctures and the gradual withdrawal of fluid (about 20 cc at a time), the tension may be gradually lowered; and in case of spinal block, the cisterna may be directly drained, if done very cautiously. In these operations, the patient must be in the recumbent position. In the non-absorptive forms, such as occur above the tentorium, "wet brain" and hemorrhages, the sub-temporal decompression is probably best. It stands to reason that only such cases can be permanently cured in which the cause that initiated the excessive cerebro-spinal fluid can be eliminated.

In conclusion, I would state that most of these cases, as a result of the condition present, manifest some change in the pupils of the eyes. Either the pupil may be below normal in size, reacting only slightly, or, if pressure is very great, paralysis of the 3rd may allow the pupil to become very large, with little or no reaction. Before making a fundal examination, the pupillary finding should be fully taken, following which, some mydriatic, such as euphthalmine, should be used in order to gain a more satisfactory view of the fundus and disk and be able more correctly to interpret the findings. With a restless patient lying in bed, and with a small pupil, it becomes very difficult to make a satisfactory fundal examination, unless a mydriatic is used. Of course, there are exceptions to this, when the mydriatic is unnecessary. In order, however, not to interfere with the pupillary findings, the mydriatic should only be used after the pupillary record has been fully obtained.

DOCTORS' SECTION.

Annual Staff Meeting. The annual meeting of the attending staff of St. Elizabeth's Mercy Hospital, Hutchinson, Kans., was held on September 12th. Dinner was served at 6 o'clock, followed by the business meeting and election of officers. The following officers were reelected:

Dr. C. Klippel, Chief; Dr. J. E. Foltz, vice-Chief; executive committee, Dr. H. L. Scales, Dr. H. J. Duvall, Dr. G. A. Chickering, Dr. E. C. Carhart.

Staff Elects Officers. The staff of St. Mary's Hospital, La Salle, Ill., has elected officers for the following year. The officers are:

President, W. W. Greaves; Vice-President, P. M. Burke; Secretary and Treasurer, L. V. Urbanowski; executive committee, J. S. Green, F. J. Maciejewski, A. B. Conner.

The members of the visiting staff are R. C. Fullenweider, F. C. Taylor, J. J. McDonald, R. H. Woods, B. J. Nauman, J. S. Antle, S. Hirsch, E. F. Cox.

DUTIES OF THE GRADUATE NURSE TO HER ALUMNAE.

Sister M. Visitation, R. N., Mercy Hospital, Cedar Rapids, Ia.

The present paper forms the address of Sister M. Visitation, delivered before the class of 1917 of Mercy Hospital, at the annual banquet of the nurses' alumni. The Sister, in her address, points out the duties of members of the organization and urges strict compliance with parliamentary procedure in all meetings of the society. Advancement in knowledge and leadership are especially encouraged.

Tonight, we have amongst us a splendid group, whom we call student nurses. Before another night passes, this class will rank among the graduates, and, as such, aspire to become alumni of the training school.

Your duties, as members of our organization, necessitate an understanding of the laws. To become acquainted with these regulations, we shall refer you to the Constitution framed by the early graduates, in 1911. We still have with us a few of those first members who have faithfully toiled for the betterment of our society, as well as the promotion of good fellowship in the many classes admitted since the foundation of the alumnae.

Next, the new alumnae should familiarize themselves with parliamentary law. As leaders of the most important organizations of nursing, they should insist that parliamentary law be observed from the first meeting. Some object to this formality. You ask what are the advantages?

First, the loquacity to which our sex is inclined may be restrained, and thus insure an orderly business meeting.

Then, parliamentary law lessens the harmful influence of personal dislikes, which so hinder the general efficiency and progress of an organization.

At a conventional assembly, one is more disposed to restrict the sharp utterance. The veritable dignity of the nursing profession should enable us to forget, or at least disregard our individual grievances.

Be broad-minded enough to recognize the ability of all the members, also liberal in bestowing generous cooperation to any favorable instigation.

The relation between the school of nursing and its alumnae should be intimate and confidential. It is well to remember that what affects the standing of one, affects the standing of the other.

We must, therefore, labor for the beneficence of the school, uphold and strengthen the influence of its officers.

Loyalty prompts the singular efforts for progress. You wish your alumnae to be of the highest class. To be this, depends greatly on your enthusiasm and concurrent struggles.

This conference, that meeting, this paper, that speech, do not always relinquish these obligations. An honest exertion never fails to receive a reward, either here or hereafter.

The nurse is essentially an intellectual being and has a general knowledge of the world about her.

Fellow Nurses! You owe it to your alumnae to be active associates; advance and appropriate leadership, and circulate edification among the nurses in our district and state.

We are proud of the nurse who is highly commendable, for her success is that of the alumnae.

In the words of a poet we would have you, "Be strong, we are not here to play, to dream, to drift. We have work to do and loads to lift. Shun not the struggle, face it, 'tis God's gift."

GRADUATION EXERCISES AT HOTEL DIEU HOSPITAL, KINGSTON, ONT., CANADA.

The following article presents an interesting account of the graduating exercises of the Hotel Dieu training school at which thirteen nurses received diplomas and class pins. A number of addresses were delivered by professors of the medical college and by the local clergy. The article opens with a brief description of the organization of the training school and of its requirements for admission, and closes with a list of the graduates and a mention of those especially honored by intensive study or remarkable nursing efficiency.

The St. Joseph's Training School for Nurses in connection with the Kingston Hotel Dieu Hospital was formally opened in the winter of 1913. The course extends through a period of three years. Lectures are given in the various branches of medicine and surgery by the attending staff of physicians. If successful in the test examination at the close of each year the student nurse is allowed to finish her course at the end of the third year when she is awarded a diploma as a graduate nurse.

The young ladies who seek admission to the school must be possessed of a good education, be in good health, and have testimonials as to character from reputable per-

sons. The number of nurses in training at the present time is forty.

Since the school's foundation over one hundred nurses have graduated from the institution. They have been a wonderful asset to their local communities. Upon their return they are veritable apostles in spreading the doctrine of better living and more hygienic conditions. In short, health education is enhanced by the splendid training these youthful graduates receive at the above named institution.

There is something pathetic, as well as beautiful in graduation. Young maidens full of happy anticipations are leaving the training school, and while looking forward with joyous hopes to the untried future, are feeling the touch of unseen and unknown shadows. The month of May is set aside each year for graduating exercises. The sweet girl graduates, witnessed the spacious classrooms handsomely draped, palm and rose festooned for the graduating of the 1922 class. Arrayed in spotless white, the smiling graduates formed a pleasing picture as they took their places on the flower-strewn stage.

There was a large group of friends, relatives, and other well wishers of the nurses present for the occasion, and the hall was taxed to its capacity by the audience during the exercises. Fitting addresses were delivered by His Worship, Mayor Corbett, who acted as Chairman; Dr. Edward Ryan, Superintendent of Rockwood Hospital; Rev. Dr. D. A. Casey, Editor of the Canadian Freeman; Rev. J. F. Nicholsen, M. C., Principal of Regiopoles College, and Dr. L. J. Austin, Professor of Surgery from Queen's University. All the speakers showered congratulations and good wishes upon the class of young ladies who were to take up their profession and follow in the footsteps of the illustrious Florence Nightingale.

Mrs. F. J. O'Connor, president of the Hospital Ladies' Auxiliary, and Mrs. John Sowards, vice-president of the Auxiliary, presented the hospital emblem pins, and Rev. Dr. Casey awarded the diplomas. Medals and prizes were also given to several of the nurses for proficiency in various subjects of the course in training.

The program also included solos by Mrs. J. L. Jerome, Miss Mary Clarke, Miss Mary Morrison, and several selections by the orchestra. All these numbers were encored by the audience, as all were artists, popular and well known to Kingston concert lovers.

After the entrance march had been played by the orchestra, during which the graduating nurses filed to their seats on the platform, the chairman, Mayor Corbett, delivered the opening address in humorous vein. He remarked that he felt rather humbled and a little backward at seeing so much beauty. But, the speaker continued, this is always found in Sisters' Hospitals. He said he was sorry to have to limit his remarks as he understood there was to be a dance afterwards, and he knew they would never consider him a friend if he delayed the dance unnecessarily. A warning was given the other speakers that they must comply with this ruling or suffer the consequences.

The Mayor extended his congratulations to the graduating class, who had reached the great day of their ach'evement when they should receive their diploma and start on their professional careers. All these young ladies had worked—and the speaker placed decided emphasis on the word work—hard for several years, and they were now receiving their just rewards. They were carrying flowers now, but during their course of training they had never carried many, said the Mayor. Mention was made of the great work of Florence Nightingale and he expressed the hope that they would follow in her footsteps and carry on the m'ghty work that she had begun.

A splendid survey of the work of the hospital and the need for more adequate buildings was set forth by Dr. Edward Ryan, who the chairman introduced as "the daddy of the Hotel Dieu." The graduating nurses were now receiving the laurel wreath as the consummation of their work in the hospital, remarked the doctor, who then

HOTEL DIEU HOSPITAL GRADUATING CLASS, KINGSTON, ONTARIO, CANADA.

went on to explain some of the duties of the nurse. Without the skilled nurse the splendid cooperation of that right hand, all the labors of the surgeon would prove in vain.

All the labor of the past three years is just a beginning, continued the doctor. No person can enter any career without work, and if after leaving college or the training school, he or she forgets the value of study, they are doomed to failure. If the years to come are to be full of progress, then there must be a constant labor and constant observation of new methods. It is not only the study of books that is needed by the successful nurse, it is the study of men and of women.

As with an individual, so with an institution, it may never be perfect but each should give the best that is in them. If one rests quietly on one's honors and awards, living in the past progress will be dead. So it is with an institution. Medical science is in a state of evoluton and progress must be shaped in accord with the demands of new methods and treatments. The doctor then sketched the work of the obstetrical department of the hospital and stated that the space in this department was most inadequate, although no hospital in Canada had a better record in this work. A new wing to be added to the hospital for this department was an absolute necessity. The treatment of sick children was also taken up by the speaker, as well as the extension of the nursery service and their accommodation.

An earnest plea was made by the doctor for support of a fund to provide a new building for these three worthy causes, and after wishing the graduates all success, closed his address with the assurance that the history of this splendid institution would be crowned with a glorious future.

The Florence Nightingale pledge was then repeated by the class and the awarding of diplomas took place. Rev. Dr. Casey made a very eloquent address on the work of the hospital during the seventy-eighth year of its existence and expressed the hope that next year the graduating exercises would be held in a more suitable nurses' home. The question of friends was discussed by Dr. Casey, who remarked that very little outside support was given the institution. No grant was received from the provincial government and the grants from the city and county council were small. During the years of its existence, no person entering the doors of the Hotel Dieu was ever asked whether he or she was a Catholic or Protestant and the services of the hospital are extended to all alike and especially to the poor of the city. The speaker humorously referred to the fact that the Sisters of the institution were not affected by the change of fashions in Paris, as they serve without pay, receiving only one habit during their lifetime and three meals a day.

Dr. L. J. Austin reviewed the progress of the nursing profession down through the ages to the present time. In 400 A. D. the first training school was started by the wife of the Roman Emperor, but it was only during the past forty years that the true value of scientific training was recognized.

The history of nursing has been associated with two great horrors—war and plague—and it was through the necessity of combatting these great scourges that the training of medical men and nurses have been developed. He advised the class to live up to the points of the star, which called for prudence, temperance, fortitude and justice. The following are those who received medals and prizes:

Gold Medal, donated by His Grace, Most Rev. M. J. Spratt, D. D., Archbishop of Kingston, for highest standing, won by Miss Kathleen McGarry, Perth, Ont.

Silver Medal, donated by Dr. E. W. Ryan for highest marks in general nursing, won by Miss Adeline McKinnon, Alexandria, Ont.

Prize for general proficiency, given by Rev. Dr. Casey, won by Miss K. McGarry, Perth, Ont.

Prize on surgical technique, given by Dr. I. G. Bogart, won by Sister Brennan.

Those receiving diplomas were: Miss Adeline McKinnon, Alexandria; Miss M. Rosamond O'Keefe, Peterboro; Miss Nellie Morris, Portland; Miss Mary Tobin, Westport; Miss Irene Cassidy, Kingston; Miss Amy Berrigan, Kingston; Miss Kathleen McGarry, Perth; Miss Eileen N. Collins, Campbellford; Miss M. Lillian McCann, Doura; Sister Mary Magdalen, Sister Katherine Taggart, Sister Jane Brennan.

GRADUATING ADDRESS.[1]

By Rev. Fr. Sigmund, O. M. Cap.

We have assembled here this afternoon in order to congratulate these young women who are about to be graduated from Saint Francis' Training School for Nursing. Of course we rejoice with them on attaining official recognition in this very responsible profession. I need hardly remind you that the making of a nurse is not an easy matter. This profession demands mental, moral and physical qualifications not to be found in every young woman. The years of training which precede graduation are years of strenuous work and unremitting drill. Strong will power and determination are absolute requisites for success. Reason sufficient this to congratulate these young women and to rejoice with them this afternoon. Still, the occasion calls forth greater thoughts. The joy that we feel on this occasion is not called forth by feelings of benevolence or friendship, it is founded on a nobler motive. The scene before our eyes today forcibly reminds us of the triumph of Christian thought and Christian principles over heartless paganism.

We would think it only natural that human beings would nurse and tend their sick. We would think that every normal human heart must be touched at the sight of this most prevalent form of human misery. It is, therefore, very surprising to discover that before the advent of Christianity, hospitals were unknown. In ancient times we hear that in many tribes the sick were simply murdered. In ancient Greece and Rome, where human civilization had attained its highest perfection, the infirm received very scant consideration. Sickness was considered a curse of the gods and the sick were accordingly despised and shunned. In Sparta, weak and sickly children were killed. Plato, the most learned and refined of pagans, considered it utter nonsense to nurse a sick slave. We may possibly think that the ancients were very unfeeling and rude. In the light of modern conditions where even every small town boasts a well equipped hospital with an efficient staff of doctors and nurses, who are always prepared to tenderly care for the sick and the injured, we justly call such inhumane treatment barbarous. Yet, as I have already mentioned, these nations were far removed from barbarism. They had in the main, all the appurtenances of modern civilization. They had splendid cities, filled with immortal treasures of art. They have created literatures which have survived two thousand years of world revolutions. Are not their laws the foundation of the jurisprudence of the present day? How can it be that people so cultured as the Greeks, so practical as the Romans should have made no provision for their sick, should have cast these poor unfortunates aside and left them to their fate?

The explanation of the fact is quite simple. The value of anything is determined by the knowledge of its purpose. If you present a rare old volume to an illiterate man he will more than likely use the invaluable pages for lighting his pipe. In like manner we find that the ancients did not properly guard human life because they knew neither the origin nor the purpose of human life. If, as the Spartan believed, the purpose of life was to make of every man a soldier, a serviceable cog in the Spartan military machine, then he was justified in doing away with a weak and sickly child. If, as the Greek believed, the purpose of human life was to be found in the acquisition of moral, mental and physical beauty then the

[1] Delivered at the Graduating Exercises of St. Francis Hospital Training School for Nurses, Pittsburgh, Pa.

cripple had no right to exist. If, as the Roman believed, the purpose of human life consisted in service of the Fatherland, then the weakling who was a burden to the state and to society, must be left to perish.

Only the true knowledge of life's ultimate purpose can give us a true valuation of life. This knowledge Christianity brought into the world. Christianity taught men that the ultimate purpose of human life is not service to the Fatherland, not military prowess, not the acquisition of beauty. The service of God is the one and all absorbing purpose of every man's life; God is the giver of life. He alone can give life. He alone has the right to take it. Human life is the property of the Creator. It is a gift held in trust. Some day God will demand it back.

If human life is but given in trust then man must treat his life as he treats anything else which he but holds at the pleasure of another, only indeed, because life is a gift of such surpassing value, he must treat it with far greater care. It is, therefore, man's duty to preserve his life. His body, the dwelling place of an immortal spirit, he must guard as the tenant guards the house of his landlord. Knowing the purpose and the value of human life, man realizes his duty toward his neighbor's life. If natural instinct prompts man to assist his neighbor when his property is jeopardized by flood or fire, must not that same instinct compel him to hurry to his assistance when a treasure far more valuable is at stake. More than this, he realizes that human life, even though its light but flicker in the crumbling castle of a broken body, in the shattered body of the hopeless cripple, in the immature body of the unborn infant, is inviolable because it belongs to God. Even the life of the grinning idiot belongs to the Creator for even such a hopeless, apparently useless existence is a service of the Creator.

But Christianity has done more. Christ taught men to see in the broken body of the invalid His own suffering self. He taught that even a cup of cold water, given in His name would meet with adequate reward. He taught that sickness is indeed often a punishment for sin but that it is oftener a sign of His special love. Sickness is considered a sign of God's special favor for it weans men's hearts from the seductive but transitory pleasure of the world and directs their striving to the imperishable joys of heaven. Far from being considered a curse, sickness must be considered a blessing as the misery and helplessness of the sick gives to thousands of others an opportunity of exercising the sublimest virtues.

I have already mentioned that hospitals were unknown in antiquity. During the first years of the Christian era the sick were housed and cared for in the Bishop's residence. As soon as the church was given her liberty, hospitals were built. Very soon the nursing orders sprang into existence, communities of men and women who devoted their lives to the service of the sick. In every country where Christianity gained a foothold, hospitals reared their walls in the shadow of the church-tower and devoted men and women were always found, who gladly gave their lives to easing the pains of the sick and smoothing the pillow of the dying.

These young women are about to follow the footprints of these noble pioneers. Though they do not bind themselves by the vows of religion, still there is an air of idealism about nursing which attaches to no other profession. Nursing might be dignified by the name of a vocation. Certain natural qualifications are indispensable for its successful exercise and, until now, it has remained untainted by the curse of commercialism. We sincerely hope that you young women will be an honor to your profession. We hope that day by day you will grow in those virtues which are required of you, in patience, kindness and fidelity to duty. In living up to the ideals of your noble calling you will be performing the greatest service to yourselves. You will daily approach closer to him who first taught men to practice kindness to the sick.

Graduates Receive Diplomas. More than a hundred people gathered to witness the graduation of eight young ladies from the Lorrain Training School at Pembroke, Ont.

Following the opening address of the chairman, a chorus of pupils sang "May Day Morn". After the chorus, Dr. McKay gave a short address to the graduates, which was followed by the presentation of diplomas and medals, and by a solo splendidly sung by Mr. Clayton Knope. The graduates received their diplomas at the hands of the bishop, while the medals were presented by Mrs. Galligan. Dr. McKay, in his address, declared the nurse to be the great healing agency of every community, and held that there was no one more deserving of honor. He asked the graduates to take into their souls the advice of the Sisters who had instructed them in their profession, and above all to be clean in mind and body, and ever watchful and modest.

In the valedictory, which was read by Miss Roberts, the words were recited clearly and with a seriousness of demeanor in true harmony with the words.

The bishop in his address, asked the graduates to give of their best and always to be loyal to the sick and suffering. He reminded them that loyalty demands sacrifice and that they would ever be in need of patience in the care of those who are sick. The program came to a close with the singing of the National anthem.

The Question Box

This department of the Magazine is intended for subscribers who have problems which trouble them. The editors will reply to questions which they can answer and to other questions they will obtain replies from competent authorities. Letters must invariably be signed with the full name of the inquirer, not necessarily for publication, but as evidence of identity and good faith. The privilege of printing any reply is reserved. Address, Hospital Progress, 1212 Majestic Building, Milwaukee, Wis.

Laboratory Course.

148. Q:—Are there any hospitals where Sisters may take a course in laboratory work?

A:—Our list gives the following: St. Catherine's Hospital, Brooklyn, N. Y.; Providence Hospital, Washington, D. C.; Creighton Memorial, St. Joseph's Hospital, Omaha, Nebr.; St. Francis Hospital, Wichita, Kansas.

Post-Graduate Course in Obstetrics.

149. Q:—Where can a nurse get a post-graduate course in obstetrics?

A:—According to our list: Providence Hospital, Detroit, Mich.; Anthony N. Brady Maternity Home, Albany, N. Y.; St. Vincent's Hospital, Portland, Oregon; St. Mary's Hospital, Toronto, Ont., Canada; Creighton Memorial, St. Joseph's Hospital, Omaha, Nebr.; Misericordia Hospital, New York City, N. Y.; St. John's Hospital, Springfield, Ill.; St. Ann's Infant Asylum and Maternity Hospital, Cleveland, Ohio.

Social Service.

150. Q:—What is a good work on Social Service?

A:—We have before us a "Handbook of Organization and Method in Hospital Social Service," by Margaret S. Brogden, Chief of Social Service at Johns Hopkins Hospital, Baltimore, Md. Although this is a book of only seventy-six pages, it impresses us as comprehensive and practical.

Floor Construction.

151. Q:—Can you refer us to a late work on floor construction?

A:—Address a letter to the "Committee on Hospital Floors," 22 East Ontario St., Chicago, Ill., asking for a copy of its recent report.

Articles for Hospital Progress.

152. Q:—To whom should I send an article to be published in the official magazine of the Catholic Hospital Association?

A:—Address: Hospital Progress, 1212 Majestic Bldg., Milwaukee, Wis. All editorial material should be sent to this address. It is also the address of the offices of the Catholic Hospital Association.

Service Bulletin.

153. Q:—We have seen only one issue of the "Service Bulletin." Please send us others.

A:—There has been but one issue. The reason there have not been more is that enough material for an issue has not been sent in to the offices of the C. H. A. We should like very much to be of service in this regard, but cooperation here, as elsewhere, is necessary for the fullest degree of success of the work.